

MODULE III CONTAINERS

III.A. PERMITTED CONTAINER STORAGE AREAS

- III.A.1. The Permittee may store hazardous waste in the Container Handling Building (CHB), Unpack Area (UPA), Explosive Containment Room Vestibule (ECV), Upstairs Munitions Corridor (UPMC), the S-2 Warehouse, the Toxic Maintenance Area (TMA) Airlock/Decon Area, and the TMA Container Storage Area.
- III.A.2. The CHB, UPA, TMA Airlock/Decon Area, and ECV shall be limited to the storage of munitions and bulk containers containing chemical agents, explosives, and propellants (hazardous waste codes P999, F999, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, D028, D034, D039). When storing leaking munitions/bulk containers in the TMA Airlock/Decon Area and UPA, the overpack (e.g., ONC) shall provide primary containment and shall be considered to be the container regulated under this Module and Module X.
- III.A.3. The UPMC shall be limited to the storage of munitions and bulk containers containing chemical agents and explosives (hazardous waste codes P999, F999, and D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, D028, D034, D039).
- III.A.4. The S-2 Warehouse shall be limited to the storage of site-generated wastes with the following waste codes: D001 through D011, D018, D019, D021, D022, D035, D039, D040, D043, F001 through F005, U002, U003, U037, U044, U080, U131, U154, U159, U210, U220, F999, and P999.
- III.A.5. The TMA Container Storage Area shall be limited to the storage of wastes with the following waste codes: D002 through D011, D018, D019, D021, D022, D035, D039, D040, D043, F001, F002, F004, F005, U037, U131, U210, F999, and P999. Treatment in the form of decontamination will be allowed in accordance with Attachment 12 (Containers).

III.B. DFS CYCLONE DISCHARGE

- III.B.1. The dust/ash collected from the Deactivation Furnace System (DFS) Cyclone shall be stored within the DFS Cyclone Discharge Enclosure in accordance with the requirements specified in R315-5-3.34.

III.C. PERMITTED AND PROHIBITED WASTE IN THE CONTAINER STORAGE AREAS

- III.C.1. When storing the wastes listed below in the CHB and the TMA Airlock/Decon Area, the waste shall be stored in overpack containers. When storing the wastes listed below in the UPA, the waste shall be stored in either overpack containers or on secondary containment pallets. The wastes listed below may be stored in the ECV and the UPMC. Storage of these wastes shall be subject to the terms of this Permit and the volumes listed below.

| Description of Hazardous Waste | Utah, EPA Hazardous Waste # | Maximum Volume, gal | | | | |
|---|---|---------------------|-------|--------------------|-----|--------|
| | | CHB | UPA | TMA Airlock /Decon | ECV | UPMC |
| Agent GB | P999, D003, D002, D004, D006, D007, D008, D009 and D010 | 15,859 | 2,972 | 661 | 680 | 3,855 |
| Agent VX | P999, D003, D004, D007, D008, D009 and D010 | 18,278 | 3,424 | 761 | 833 | 4,366 |
| Mustard Agents (H, HD, HT) | P999, <u>D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, D028, D034, D039</u> | 15,418 | 2,880 | 640 | 671 | 4,145 |
| Explosives | P999, D003 | - | - | - | - | note 1 |
| Propellants | P999, D003 | - | - | - | - | N/A |
| Fuzes | P999, D003 | - | - | - | - | N/A |
| Detonators | P999, D005, D008, D003 | - | - | - | - | N/A |
| Squibs | P999, D003 | - | - | - | - | N/A |
| Igniters | P999, D003 | - | - | - | - | N/A |
| Initiators | P999, D003 | - | - | - | - | N/A |
| Bursters | P999, D003 | - | - | - | - | note 1 |
| Mine Bodies | P999, D003 | - | - | - | - | N/A |
| Rocket Components | P999, D003 | - | - | - | - | N/A |
| Munitions Body Components | P999, D003 | - | - | - | - | - |
| Mine Drums | P999, D003 | - | - | - | - | N/A |
| Note 1: See Paragraph 14.4.2.18 for instances when the burster detection system detects energetics in projectiles or mortars. | | | | | | |

III.C.2. The Permittee shall not exceed a maximum storage capacity of 48 overpacks in the CHB at any one time. The Permittee shall not exceed a maximum storage capacity of nine ONCs, 12 Spray Tank Overpacks or 40 MK-116 Bomb Overpacks in the UPA at any one time. The Permittee shall not exceed a maximum storage capacity of two overpacks in the TMA Airlock/Decon Area at any one time.

III.C.3. The Permittee shall not exceed the maximum allowable number of munitions per individual overpack as specified below and shall not exceed the maximum allowable total number of munitions in the CHB, the UPA, the ECV, the TMA Airlock/Decon Area, and the UPMC as specified below:

| Munition | Maximum Allowable Number per Overpack | Maximum Allowable Number | | | | |
|---------------------------|---------------------------------------|--------------------------|------|--------------------|-----|------|
| | | CHB | UPA | TMA Airlock /Decon | ECV | UPMC |
| 155 mm Projectile | 96 | 4608 | 864 | 192 | 28 | 1004 |
| M55 Rocket | 30 | 1440 | 270 | 60 | 3 | N/A |
| Mine | 36 | 864 | 324 | 36 | 60 | N/A |
| Ton Container | 2 | 96 | 18 | 4 | 4 | 19 |
| Spray Tank | 1 | 48 | 12 | 2 | 1 | 10 |
| 4.2" Mortar | 192 | 9216 | 1728 | 384 | 38 | 1957 |
| 105 mm Projectile | 96 | 4608 | 864 | 192 | 30 | 1956 |
| MK-116 Bomb | 1 | 48 | 40 | 2 | 4 | 19 |
| VX Test Cylinder | 1 | 0 | 0 | 18 | 0 | 0 |
| VXH Five-Gallon Container | | | | | | 19 |

III.C.3.a. Spray tanks and MK-116 bombs may be stored in the original transport overpacks in the CHB, TMA Airlock/Decon Area, or the UPA, if the original transport container meets the criteria specified in Condition III.D.

III.C.4. The Permittee shall not store hazardous waste that is not identified in Condition III.C.1. in the CHB, UPA, TMA Airlock/Decon Area, ECV, or UPMC. In addition to the permitted storage discussed in this module, the TMA Airlock/Decon Area is also a 90-day Storage Area for site-generated waste.

III.C.5. The Permittee shall store wastes in containers in the TMA Container Storage Area subject to the terms of this Permit, provided that the maximum volume of containerized waste stored in the TMA Container Storage Area does not exceed 2,200 gallons. The Permittee shall also store agent-contaminated parts and equipment in the TMA Container Storage Area.

III.C.6 The Permittee shall store site-generated wastes in containers in the S-2 Warehouse subject to the terms of this Permit, provided that the maximum volume of containerized waste stored in the S-2 Warehouse does not exceed 38,720 gallons.

III.C.7 The Permittee shall not exceed a maximum volume of 600 gallons of containerized waste per secondary containment pallet in the S-2 Warehouse at any one time. Except as provided in Attachment 12, the volume of a single container stored on a secondary containment pallet in the S-2 Warehouse shall not exceed 60 gallons.

III.D. **CONDITION OF CONTAINERS**

III.D.1. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this Permit.

III.E. **COMPATIBILITY OF WASTE WITH CONTAINERS**

III.E.1. The Permittee shall comply with R315-8-9.3.

III.F. **MANAGEMENT OF CONTAINERS**

III.F.1. In the CHB, UPA, and the TMA Airlock/Decon Area, the Permittee shall keep all containers closed during storage, except when it is necessary to add or remove waste and shall not open, handle, or store containers in a manner which may rupture a container or cause it to leak. In the S-2 Warehouse, the Permittee shall keep all containers closed except when adding or removing waste or periodically monitoring the vapor space within the container and shall not handle or store containers in a manner which may rupture a container or cause it to leak.

III.F.2. The Permittee shall manage all hazardous waste placed in containers stored in permitted container storage areas in accordance with Module X.

III.G. **SECONDARY CONTAINMENT SYSTEM**

III.G.1. Overpacks shall meet the secondary containment requirements of R315-8-9.6 for the non-leaking munitions contained within. The types of overpacks used shall be On-Site Containers (ONC), Spray Tank Overpacks, and MK116 Bomb Overpacks. ONCs shall be used to store all munitions and bulk containers except spray tanks and MK116 bombs. The latter two items shall be stored in item-specific overpacks (also referred to as shipping containers). The sumps and corresponding trenching located in the CHB shall not be used as secondary containment but shall be used to collect moisture or precipitation (storm water runoff) that may drip from the overpack exterior.

III.G.2. With the exception of the munition loading activities that may occur in the UPA (ref: Attachment 12), ONCs shall be tested for vapor tightness upon receipt in the CHB for storage. Spray Tank and MK116 Bomb Overpacks shall also be tested for vapor tightness prior to receipt in the CHB.

III.G.3. Records of vapor tightness testing shall be kept at the facility as part of the TOCDF Operating Record and shall be subject to inspection.

III.G.4. If the ability of an overpack to contain vapors is impaired (i.e., fails a leak test), the overpack shall be moved to the UPA for processing on a priority basis. Furthermore, if the impaired overpack is determined, via ACAMS monitoring, to contain leaking munitions/bulk containers, personnel wearing the appropriate PPE shall unpack the leakers in the UPA and process them. Overpacks, which are impaired, may also be repaired so that a leak test can be passed.

III.G.5. The secondary containment systems for the ECV, TMA Airlock/Decon Area, UPA, and UPMC shall be designed and operated as specified in Attachment 12 (Containers).

III.H. **INSPECTION SCHEDULES AND PROCEDURES**

III.H.1. The Permittee shall inspect the container areas weekly, in accordance with the Inspection Plan (Attachment 5) and Module X, to detect leaking containers and deterioration of containers and the containment system caused by corrosion and other factors.

III.I. **RECORDKEEPING**

- III.I.1. The Permittee shall document all waste received at the TOCDF in the Operating Record, in accordance with Condition II.I.

III.J. **CLOSURE**

- III.J.1. At closure of the container area, the Permittee shall remove all hazardous waste and hazardous waste constituents from the containment system, in accordance with the procedures in the Closure Plan (Attachment 10).

III.K. **REACTIVE WASTES**

- III.K.1. The Permittee shall take precautions to prevent accidental reaction of wastes and follow the procedures specified in Attachments 8 (Preparedness and Prevention) and 12 (Containers).

III.L. **INCOMPATIBLE WASTE**

- III.L.1. The Permittee shall place munitions or bulk containers with only one type of chemical agent in the CHB, UPA, ECV, UPMC, TMA Airlock/Decon Area, or the TMA Container Storage Area at a time. In the S-2 Warehouse, the Permittee shall not place containers with incompatible site-generated waste on a secondary containment pallet at the same time.
- III.L.2. The Permittee shall not place chemical agent or munitions containing a chemical agent in a container or munition that previously held a different chemical agent until the container has been decontaminated to less than one VSL.

MODULE IV - TANK SYSTEMS

IV.A. APPLICABILITY

IV.A.1. The requirements of this Module pertain to the storage and treatment of hazardous waste in the Agent Collection System (ACS), Spent Decontamination System (SDS), and Brine Reduction Area (BRA) tank systems identified in Condition IV.B.1. The Permittee shall comply with R315-8-10 and the conditions of this Permit for all tank systems.

IV.B. WASTE IDENTIFICATION AND TANK USAGE

IV.B.1. The Permittee may only store at the listed maximum capacity, and treat by detoxification (T29) in accordance with Attachment 2 (Waste Analysis Plan), if applicable, the hazardous wastes listed for the following tank systems:

| HAZARDOUS WASTE STORAGE AND TREATMENT TANK SYSTEMS | | | | |
|--|--|--------------------------------------|---|--|
| Tank Number | Maximum Storage Capacity Gallons | Nominal Tank Dimensions ¹ | Allowable Waste Codes | Permitted Management Activity ² |
| ACS-TANK-101 | 500 (agent) 582 (other permitted liquids, Note 2) | 3'-6" diameter, 9'-9" high | F999, P999, D002, D003, D004, D006, D007, D008, D009, D010, D011, D028, D034, D039 | Storage of agent, miscellaneous agent contaminated liquids, decontamination solutions for maintenance or agent change-over, and non-hazardous agent simulants |
| ACS-TANK-102 | 1,130 | 4'-6" diameter, 11'-9" high | F999, P999, D002, D003, D004, D006, D007, D008, D009, D010, D011, D028, D034, D039 | Storage of agent, miscellaneous agent contaminated liquids, decontamination solutions for maintenance or agent change-over, and non-hazardous agent simulants |
| SDS-TANK-101 SDS-TANK-102 SDS-TANK-103 | 2,200 per tank | 6'-0" diameter 11'-6" high | F999, P999, D002, D003, D004, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D034, D039, D040, D043 | Storage and treatment of spent decontamination solutions, miscellaneous agent contaminated liquids from a spill, and liquid wastes from Area 10 Glovebox Operations |

Deleted: the remote sampling system glovebox and the CSS.

| HAZARDOUS WASTE STORAGE AND TREATMENT TANK SYSTEMS | | | | |
|--|----------------------------------|--------------------------------------|-------------------------------|--|
| Tank Number | Maximum Storage Capacity Gallons | Nominal Tank Dimensions ¹ | Allowable Waste Codes | Permitted Management Activity ² |
| BRA-TANK-101 BRA-TANK-102 BRA-TANK-201 BRA-TANK-202 | 42,900 per tank | 20'-0" diameter 20'-0" high | F999, D002, D004 through D011 | Storage and treatment spent scrubber brines and Pollution Abatement System (PAS) liquids |
| NOTES: 1. See Attachment 16 for design information for the ACS, SDS and BRA tank systems. 2. Miscellaneous agent contaminated liquids are defined in Attachment 2 (Waste Analysis Plan), Section 2.2.1.15. | | | | |

Deleted: BRA/BRA

- IV.B.2. The sumps listed in Table 4, used to collect decontamination solutions, agent and miscellaneous liquid spills are subject to the requirements of this Module. These sumps, also called Intermittent Collection Units (ICUs) by the Permittee, may be used to treat agent and agent contaminated hazardous wastes with decontamination solution before they are pumped to the permitted SDS tank system. Only wastes with the codes F999, D002, D003, D004, D006, D007, D008, D009, D010, ~~D011, D018~~, D019, D022, D028, ~~D034, D039, D040, D043~~ and P999 are allowed in the SDS sumps. The maximum capacity of the SDS sumps as shown in Table 4 shall not be exceeded, except as allowed by Condition IV.B.5 or Attachment 16 (Tank Systems). Wastes shall not remain in these sumps for more than 24 hours, except as allowed by Conditions IV.B.6. and IV.B.7.
- IV.B.3. Off-site generated hazardous wastes shall not be placed in any of the permitted tanks or sumps.
- IV.B.4. Laboratory wastes shall not be placed in any of the permitted tanks and sumps except for brine samples and their salt residues as allowed by Condition IX.B.3. Liquid wastes from the Conditioning and Settling System (CSS) may be placed in the SDS tanks. Agent samples managed in the remote sampling system glovebox shall be decontaminated before transfer to the CSS.
- IV.B.5. Notwithstanding the requirements specified elsewhere in this Permit, the Permittee may exceed the capacity of the sumps identified in Table 4 that are not listed in this Condition if, during a toxic area entry, the sump pump ceases to work and the subsequent decontamination of entrants causes the sump capacity to be exceeded and the decontamination is necessary to ensure a safe exit from the room or in the event of a failure of any of the SDS or ACS tanks. If this occurs, the Permittee shall record in the Operating Record the circumstances that caused the overfill and shall remove the waste as soon as it can be safely accomplished in accordance with Condition IV.B.2. This exclusion does not apply to the following sumps: SDS-PUMP-101, 102, 103, 104, 130, 131, 133, 136, 137, 138, 139, 140, 141, 142, 144, 156, 167, 173, 192, 193, BRA-PUMP-104, 204, 103.

- IV.B.6. Notwithstanding the requirements specified elsewhere in this Permit, the Permittee may store waste in the sumps listed in Table 4 for greater than 24 hours if a toxic area entry necessary to support waste removal cannot be initiated or completed for any of the following reasons:
- IV.B.6.a. Agent concentrations exceed the authorized level for the PPE to be worn.
 - IV.B.6.b. A breach or tear occurs in a DPE suit.
 - IV.B.6.c. A loss of communications occurs between the parties involved in an entry.
 - IV.B.6.d. The room temperature is too high to allow an entry.
 - IV.B.6.e. Any of the participants in an entry suffer from an illness or heat stress.
 - IV.B.6.f. A loss of Life Support System (LSS) air occurs.
 - IV.B.6.g. A loss of either utility power or the Heating, Ventilation, and Air Conditioning (HVAC) system occurs.
 - IV.B.6.h. Explosive components are present, endanger worker safety, and cannot be removed so as to allow removal of waste from the sump within 24 hours.
- IV.B.7. For those instances where waste is not removed from the sumps within 24 hours as allowed by Condition IV.B.6., the Permittee shall record in the Operating Record the circumstances that prevented removal within 24 hours and shall remove the waste as soon as it can be safely accomplished.

IV.C. GENERAL OPERATING REQUIREMENTS

- IV.C.1. The Permittee shall not place incompatible waste or material in a tank system if the waste or material could cause the tank, its ancillary equipment, or the secondary containment sump to rupture, leak, corrode, or otherwise fail.
- IV.C.2. The Permittee shall not place hazardous wastes in a tank or its ancillary equipment that has previously held an incompatible material until the tank or ancillary equipment has been properly decontaminated. The Permittee shall not place a different chemical agent in the ACS tanks until all sludge is removed and the tank has been properly decontaminated. The Permittee shall not place a different agent in the sump systems until the campaign changeover requirements for sumps specified in Attachment 5 (Inspection Plan) have been satisfied.
- IV.C.3. Any permitted tank system used to store or treat a hazardous waste at the TOCDF shall be managed in accordance with Module X.
- IV.C.4. The design and operating descriptions of the permitted tank systems are provided in Attachment 16 (Tank Systems). Operation of the permitted tank and sump systems shall comply with Attachment 16 (Tank Systems).
- IV.C.5. Waste shall not be added to any of the tanks described in Condition IV.B.1. unless the associated tank's level control instrumentation identified in Attachment 6 (Calibration Plan) is operational in accordance with the manufacturers' specifications and the level devices are fully calibrated.
- IV.C.6. If treatment is conducted in a tank system, sufficient freeboard shall remain so the permitted tank capacity shall not be exceeded when decontamination solutions are added.

IV.C.7. Any permitted tank used to store or treat a hazardous waste at the TOCDF shall be equipped with a level control device that prevents the tank system from exceeding the permitted capacity.

IV.C.8. The Permittee may transfer liquids accumulated in PAS-SUMP-110 to the Brine Surge Tanks (BSTs) provided that prior to transfer, the Permittee has analyzed the liquids in accordance with Attachment 2 (Waste Analysis Plan).

IV.D. SPECIFIC OPERATING CONDITIONS - AGENT STORAGE TANKS

IV.D.1. The only hazardous wastes or other materials allowed in ACS-TANK-101 and ACS-TANK-102 are liquid hazardous waste chemical agents, miscellaneous agent contaminated liquid wastes, non-hazardous chemical agent simulants, and decontamination solutions used to decontaminate the system after agent campaigns and prior to maintenance activities that will be treated in the Liquid Incinerator (LIC) primary combustion chambers.

IV.D.2. The only chemical agents that can be placed in the ACS, ACS-TANK-101, and ACS-TANK-102 are GB, VX and Mustard (H/ HD/HT) and their naturally occurring breakdown products.

IV.D.3. The miscellaneous agent contaminated wastes allowed in the ACS, ACS-TANK-101, and ACS-TANK-102 are identified in Attachment 2 (Waste Analysis Plan), Section 2.2.1.15.

IV.D.4. The maximum storage capacity of the Agent Holding Tank, ACS-TANK-101, shall be 582 gallons, except for agent. No more than 500 gallons of agent shall be stored in this tank. The maximum tank level, measured from the tangent of the bottom dome, shall not exceed seven feet six inches for non-agent wastes and six feet three inches for agent.

IV.D.5. The maximum storage capacity of Agent Holding Tank, ACS-TANK-102, shall be 1,130 gallons. The maximum tank level, measured from the tangent of the bottom dome, shall not exceed eight feet nine inches.

IV.E. SPECIFIC OPERATING CONDITIONS - SPENT DECONTAMINATION STORAGE TANKS

IV.E.1. The only hazardous waste or materials that shall be placed in SDS-TANK-101, SDS-TANK-102, and SDS-TANK-103 are sodium hypochlorite decontamination solutions, sodium hydroxide solutions, agent breakdown products resulting from decontamination, the miscellaneous liquid wastes identified in Attachment 2 (Waste Analysis Plan) Section 2.2.1.15, spent bleach from PPE/personnel decontamination in the Munitions Demilitarization Building (MDB) using bleach bottles, liquid wastes from the remote sampling system glovebox and the CSS, major spills in accordance with Condition IV.E.4, run-off from fire suppression efforts as described in Attachment 9 (Contingency Plan), and cleaning solutions used to decontaminate the system after agent campaigns and prior to maintenance activities.

IV.E.2. The maximum storage capacity of SDS-TANK-101, SDS-TANK-102, and SDS-TANK-103 shall not exceed 2,200 gallons in each tank. The maximum tank level, measured from the tangent of the bottom dome, shall not exceed nine feet five inches.

- IV.E.3. The only treatment allowed in the SDS Tanks shall be the addition of approved decontamination solutions when the chemical agents GB and VX are detected at or above 20 parts per billion (ppb), and the mustard compounds H/HD/HT are detected at or above 200 ppb.
- IV.E.4. The Permittee shall maintain a minimum of one SDS Tank (SDS-TANK-101, SDS-TANK-102, or SDS-TANK-103) free of waste when chemical agent (P999) is being processed or stored inside the MDB to be used in the event of a spill as a result of a tank failure, munition over-pack failure, or munition/bulk item failure.
- IV.E.5. The Permittee may accumulate waste, identified in Condition IV.B.1., in all three SDS Tanks when no chemical munitions and bulk items are inside the MDB and no chemical agents are stored in ACS-TANK-101 and ACS-TANK-102, such as during agent campaign changeovers or extended plant shutdowns.
- IV.E.6. In the event of a spill described in IV.E.4., munitions that have passed the Explosive Containment Vestibule (ECV) may continue to be processed. The Permittee shall not process any other munitions until the circumstances which resulted in the spill have been rectified, the spill has been cleaned up, and a minimum of one SDS tank is free of waste, as specified in Condition IV.E.4.
- IV.E.7. The Permittee shall manage waste accumulated in each SDS tank as an operating batch. A batch of waste shall be the volume of liquid accumulated in the tank when filling of the tank has been stopped and the Permittee has determined that no additional waste will be added to the tank before it is to be emptied. Prior to emptying the tank, the Permittee shall sample and analyze each batch of waste in accordance with the Attachment 2 (Waste Analysis Plan) and Module X.
- IV.E.8. Each batch of liquid waste accumulated in the SDS tanks that is derived from the decontamination of VX and mustard chemical agents shall be incinerated in the secondary chambers of the TOCDF LICs. Each batch of liquid waste accumulated in the SDS tanks that is derived from the decontamination of GB chemical agent shall be incinerated in the secondary chambers of the LICs or shipped off site for incineration. Only liquid wastes having an agent concentration at or below 20 ppb for GB, 20 ppb for VX, and 200 ppb for H/HT/HD shall be incinerated in the secondary chamber of the LICs. If the GB spent decontamination liquid is shipped off site, the requirements of Section 2.2.2.28 and Attachment 2 (Waste Analysis Plan) shall be met.

IV.F. SPECIFIC OPERATING CONDITIONS - BRINE SURGE TANKS (BSTs)

- IV.F.1. The only hazardous wastes that shall be placed in BSTs, BRA-TANK-101, BRA-TANK-102, BRA-TANK-201, and BRA-TANK-202, are spent scrubber brines from the incinerator Pollution Abatement Systems (PASs), liquid wastes from Sump 110, decontamination solutions, liquids collected in the BST secondary containment system, BRA PAS stack condensate, solutions used to clean the BRA heat exchanger, decontamination or cleaning solutions used to decontaminate the system after agent campaigns and prior to maintenance activities, and all allowable waste feed to the BRA Miscellaneous Treatment Unit specified in Condition IX.B.

- IV.F.2. The cleaning solutions for the heat exchanger referenced in Condition IV.F.1. shall be limited to 900 gallons per batch of weak acids (e.g., a nominal 3% by weight hydrochloric acid solution or a citric acid solution, etc). These solutions shall only be added to a BST when there is a minimum of 10,000 gallons of brine in the tank. Proprietary cleaning solutions drained from a Mobile Cleaning Unit shall not be added to any of the BSTs.
- IV.F.3. No ignitable or reactive waste may be stored in the BSTs.
- IV.F.4. The maximum storage capacity of the BSTs, BRA-TANK-101, BRA-TANK-102, BRA-TANK-201 and BRA-TANK-202, shall be 42,900 gallons per tank. The maximum level of liquid in the tank, measured from the bottom of the tank, shall not exceed 18 feet three inches.
- IV.F.5. The only treatment allowed in the BSTs shall be the addition of approved decontamination solutions when the chemical agents GB and VX are detected in the brine above 20 ppb, and the mustard compounds H/HD/HT are detected in the brine above 200 ppb.
- IV.F.6. Contaminated liquids shall not be pumped from the BSTs until concentration levels are at or below 20 ppb for agents GB and VX, and 200 ppb for mustard compounds H/HD/HT.
- IV.F.7. The Permittee shall manage waste accumulated in the BSTs in batches. A batch of waste shall be the volume of liquid accumulated in the tank when filling of the tank has been stopped and the Permittee has determined that no additional waste will be added to the tank before it is to be emptied. At such time, the Permittee shall sample and analyze the waste contained in that tank in accordance with the Attachment 2 (Waste Analysis Plan).
- IV.F.8. Waste in the BST System shall be processed either through the BRA or transferred off site to an approved facility for treatment and disposal. Processing in the BRA is contingent upon completion of testing and approval of the test results by the Executive Secretary.
- IV.G. SUMPS DESIGNATED AS 24-HOUR INTERMITTENT COLLECTION UNITS (ICUs)**
- IV.G.1. Except as allowed by Conditions IV.B.6. and IV.B.7., hazardous wastes may be stored in the sumps (ICUs) identified in Table 4 for a period not to exceed 24 hours. Except as allowed by Conditions IV.B.6. and IV.B.7., sumps shall be pumped at least once every 24 hour period if liquids are detected.
- IV.G.2. Compliance with Condition IV.G.1. shall be documented in the Operating Record by recording the time and the duration between activation and deactivation of each sump's low level indicator instrument.
- IV.H. OPERATING PROCEDURES FOR BRINE TANKS SECONDARY CONTAINMENT SUMP**

- IV.H.1. Except for the presence of liquid in the sumps allowed by Attachment 5 (Inspection Plan), if the Permittee detects liquids in the BST System sump (identified by the associated pump number, BRA-PUMP-103 or BCS-PUMP-107 in Table 4), within 24 hours, the Permittee shall manage the liquids using one of the three following methods:
- IV.H.1.a. The accumulated liquids can be transferred to a BST where the liquids shall be managed as a hazardous waste;
- IV.H.1.b. The accumulated liquids can be transferred off site where these accumulated liquids will be managed as a hazardous waste (spent scrubber brines) as specified in Section 2.2.2.13 of Attachment 2 (Waste Analysis Plan); or
- IV.H.1.c. If it can be demonstrated, in accordance with R315-2-3, that the material removed from the sump is precipitation, which does not contain listed hazardous wastes, the material may be managed as a non-hazardous waste. For the purposes of demonstrating that the material does not contain a listed waste, or is not derived from a listed waste, the analytical results obtained shall indicate that there is no detectable chlorine, the pH is neutral, the concentrations for TC metals and TC organics (identified by footnote 3 in Table 2-1 in Attachment 2) are below the corresponding detection limits, and the specific gravity is equal to $1 \pm 5\%$. If these criteria are met, the material may be managed as a non-hazardous waste.
- IV.H.2. Snow and ice shall not be allowed to accumulate or remain within the Brine Tank Secondary Containment System. Snow, ice, and liquid shall be removed within 24 hours of the end of the precipitation event. Snow and ice shall be managed as specified in Condition IV.H.1.
- IV.H.3. Sludges or solids collected in the BST System sump shall be analyzed for TCLP metals and TCLP organics. If the material from a representative sample is found to contain TCLP metals or TCLP organics above the toxicity characteristic regulatory level, the material shall be managed as a hazardous waste. If the metals or organics are all below the toxicity characteristic regulatory level, the material may be managed as a non-hazardous waste.

IV.I. INSPECTION SCHEDULES AND PROCEDURES

- IV.I.1. The Permittee shall inspect the tank and sump systems in accordance with the inspection schedule provided in Attachment 5 (Inspection Plan).
- IV.I.2. If any SDS or BRA tank has been out of service for 360 or more days, it shall be recertified by an independent, qualified registered professional engineer that the tank system is capable of storing liquid hazardous waste for the intended life of the system. The Permittee shall have this certification performed before the tank is put back into service. The certification report shall then be submitted to the Executive Secretary within 15 days after returning the tank system to service.

IV.J. RESPONSE TO LEAKS OR SPILLS

- IV.J.1. In the event of a leak or a spill from a tank system, from a secondary containment sump system, or if a system becomes unfit for continued use, the Permittee shall remove the system from service immediately and initiate the following activities:
- IV.J.1.a. Stop the flow of hazardous waste into the system and inspect the system to determine the cause of the release.
- IV.J.1.b. Contain any visible release to the environment. The Permittee shall immediately conduct a visual inspection of all releases to the environment and based on that inspection: (1) prevent further migration of the leak or spill to soils or surface water and (2) remove and properly dispose of any visible contamination of the soil or surface water.
- IV.J.1.c. Remove waste and accumulated precipitation from the system within 24 hours of the detection of the leak to prevent further release and allow inspection and repair of the system. If the Permittee finds that it will be impossible to remove the waste within this time period, the Permittee shall notify the Executive Secretary as soon as possible but not to exceed 24 hours of that determination.
- IV.J.1.d. For a release caused by a spill that has not permanently damaged the integrity of the system, the Permittee shall remove the released waste and make the necessary repairs to fully restore the tank or sump system before it is put back into service.
- IV.J.2. If the Permittee replaces a component of the tank system to eliminate a leak, the replacement component shall satisfy the requirements for new tank systems or components in R315-8-10 [40 CFR Sections 264.192 and 264.193 incorporated by reference].
- IV.J.3. After all major tank or sump system repairs, the Permittee shall obtain a certification by an independent, qualified registered professional engineer that the repaired system is capable of handling hazardous wastes without release for the intended life of the system before returning the system to service. Examples of major repairs are: installation of an internal liner, repair of a ruptured tank, or repair or replacement of a secondary containment vault.

IV.K. CALIBRATION REQUIREMENTS

- IV.K.1. The Permittee shall maintain, calibrate, and operate all process monitoring, control, and recording equipment as specified in Attachment 6 (Calibration Plan), whenever hazardous wastes are present in a permitted tank system.

IV.L. RECORD KEEPING AND REPORTING

- IV.L.1. Except as allowed in Condition IV.L.2., the Permittee shall orally report to the Executive Secretary within 24 hours of detection when a leak or spill occurs from a tank system or secondary containment system.
- IV.L.2. Releases from a tank system that are contained within a secondary containment system need not be reported unless they occur from an unexplained source. All pertinent information about a release shall be recorded in the facility Operating Record.

- IV.L.3. Within 30 calendar days of detecting a release to the environment from a tank system or a secondary containment system, except for P999 and F999 wastes which require a written report as specified by Condition I.U., the Permittee shall report the following information to the Executive Secretary:
- IV.L.3.a. Likely route of migration of the release;
- IV.L.3.b. Characteristics of the surrounding soil (including soil composition, geology, hydro geology, and climate) including proximity of down gradient drinking water, surface water, and populated areas;
- IV.L.3.c. Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet the written report time period, the Permittee shall provide the Executive Secretary with a schedule of when the results will be available. This schedule shall be provided in writing before the required submittal period expires;
- IV.L.3.d. Description of response actions taken or planned to minimize the spill impact on the environment;
- IV.L.3.e. Describe the repairs, design changes, or operating procedures to the tank system to minimize the potential for additional spills or leaks.
- IV.L.4. The Permittee shall keep on file at the facility the written certification statements by those persons that certify the design, installation, and integrity of the tank systems until such time that those tank systems are certified closed.
- IV.L.5. In the event that a tank exceeds the maximum allowable capacity designated for that system, the Permittee shall notify the Executive Secretary in writing within seven days of discovery and document the following information in the facility Operating Record:
- IV.L.5.a. The date and time of occurrence;
- IV.L.5.b. The tank system involved and its contents at the time of the occurrence;
- IV.L.5.c. Any other available tank storage volume within the system. If no additional storage capacity was available within the storage system, indicate if the associated collection and treatment activities were automatically stopped;
- IV.L.5.d. A description of whether the tank system automatically switched from the High-High level tank to a tank with the available storage capacity and if the tank intake valves were automatically closed;
- IV.L.5.e. Any associated incinerator automatic waste feed cutoff interlocks. Identify the interlocks and whether the interlocks were successfully activated; and
- IV.L.5.f. A description of the operating control procedures that allowed the tank system to exceed the maximum allowable storage capacity (e.g., why the operator was not successful in managing the waste within the high level volume working capacity).

IV.L.6. The Permittee shall document and record the results of each SDS tank waste analysis and any subsequent treatment.

IV.L.7. The Permittee shall document and record the results of each BST waste analysis and any subsequent treatment.

IV.M. CLOSURE

IV.M.1. Partial Closure

IV.M.1.a. At the conclusion of each agent campaign, the TOX shall be thoroughly decontaminated; all decontamination films shall be removed using an appropriate rinse; all clouded observation windows that compromise the ability to view operations shall be cleaned or replaced; and maintenance and repair shall be performed. The Permittee will submit in writing to the Executive Secretary, a request for partial closure of the room and tank systems, since the agent is being changed. Upon approval for partial closure by the Executive Secretary, the next campaign will commence, when authorized, and when it is appropriate to do so.

IV.M.2. The Permittee shall close the Tank Systems in accordance with Attachment 10 (Closure Plan).

MODULE V LONG-TERM INCINERATION

V.A. GENERAL CONDITIONS FOR INCINERATORS AND FURNACES

V.A.1. CONSTRUCTION AND MAINTENANCE

- V.A.1.a. The Permittee shall maintain each incinerator and furnace in accordance with the design plans and specifications. Design plans and specifications shall be provided to representatives of the Executive Secretary upon request.
- V.A.1.b. Modification to the design plans and specifications for an incinerator or a furnace shall be allowed only in accordance with Condition II.A.2.
- V.A.1.c. The Permittee shall install and test all process monitoring and control instrumentation for each incinerator and furnace in accordance with the design drawings in Attachment 11, and in accordance with the performance specifications and maintenance procedures contained in Tables 6-A-1 (LIC 1) and 6-A-2 (LIC 2); Table 6-B (MPF); and Table 6-C (DFS) in Attachment 6 (Instrument Calibration Plan and Incinerator Waste Feed Interlock Function Test).
- V.A.1.d. Reserved.
- V.A.1.e. The Permittee shall maintain each incinerator or furnace such that when operated, in accordance with the operating requirements specified in this Permit, each incinerator or furnace shall meet the applicable performance standards specified in Section V.A.2.
- V.A.1.f. The Permittee shall maintain and operate a minimum of one monitor for each oxygen (O₂) and carbon monoxide (CO) continuous emission monitor specified in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables). If either the CO or O₂ monitors fail, and no certified backup CEMS is on line, for continuous monitoring then feed to the incinerator or furnace shall be stopped.
- V.A.1.f.i. For the MPF and DFS only, a back up O₂ and CO monitor shall be on line in case the primary monitor fails or malfunctions during waste feed. The Permittee shall use the backup monitor until the waste has exited the furnace or furnace system. The monitor that failed or malfunctioned shall be replaced or repaired prior to resuming feed to the furnace or furnace system.
- V.A.1.g. The Permittee shall maintain and operate Depot Area Air Monitoring System (DAAMS) tubes and Automatic Continuous Air Monitoring System (ACAMS) monitor on each incinerator or furnace exhaust duct and DAAMS tubes and staggered ACAMS monitors on the common stack as specified in Attachments 19 (Instrumentation and Waste Feed Cut-off Tables) and 22 (Agent Monitoring Plan).
- V.A.1.h. Major maintenance changes shall require recalibration of the Continuous Emission Monitoring Systems (CEMS) in accordance with the most stringent requirements of 40 CFR Part 266, Appendix IX, 40CFR Part 60, Appendix B, Performance Specification Tests and Attachment 20 (CEMS Monitoring Plans), Section 8.a.7. A certified monitor may receive minor maintenance and repairs and still remain certified in accordance with V.A.1.h.i and 40 CFR 266, Appendix IX.

V.A.1.h.i. The following table categorizes the CEMS repairs and maintenance, and the re-certification step, if required, prior to placing the instrument on line for monitoring:

| Maintenance operation | Repairs/Maintenance Included | Operational Validation Steps Required |
|-------------------------------------|---|---|
| Modification of Critical Components | <ul style="list-style-type: none"> •Changes to probe construction material •Changes of detection method •Addition or deletion of sample conditioning components | <ul style="list-style-type: none"> •Relative Accuracy Test Audit (RATA). •7-Day Calibration Drift Test. •Response Time Test. •Calibration Error Test. <p>Note: This is a full CEMS re-certification.</p> |
| Major | <ul style="list-style-type: none"> •Detector change or repair. •Circuit card change or repair. •Power supply change or repair. | <ul style="list-style-type: none"> •7-Day Calibration Drift Test. •Response Time Test. •Calibration Error Test. |
| Minor (Maintenance/Repairs) | <ul style="list-style-type: none"> •All other maintenance and repair activities not addressed above. These include, but are not limited to: •Analyzer adjustment or optimization. •Cell replacement. •Pump repair/replacement. •Filter replacement. •Sample conditioner repair or replacement. •Probe replacement. •Tubing replacement. | <ul style="list-style-type: none"> •Re-calibration of instrument. •Calibration Error Test. •Response Time Test <p>Note: Re-certification in accordance with 40 CFR 266, Appendix IX is not required for monitors receiving Minor maintenance or repairs. The monitor shall remain certified.</p> |

V.A.1.H.ii. The following table categorizes the API-300EM CO analyzer repairs and maintenance, and the recertification step, if required, prior to placing the instrument on line for monitoring:

| Maintenance Operation | Repairs/Maintenance Included | Steps Required to Re-Certify for Operations |
|-------------------------------------|--|--|
| Modification of Critical Components | <ul style="list-style-type: none"> • Replacement or update software • Replacement of software chip • Replacement of CPU | Full CEMS analyzer recertification including: <ul style="list-style-type: none"> • Relative Accuracy Test Audit (RATA) • 7-Day Calibration Drift • Response Time Test • Calibration Error Test |
| Major | <ul style="list-style-type: none"> • Change out of detector • Synchronous/Demodulation board replacement • Source • GCF wheel • GDF wheel motor | <ul style="list-style-type: none"> • Calibration Error Test, Calibration • Calibration Error Test, Calibration, Dark Calibration • Calibration • 7 Day Calibration Drift |
| Minor (Maintenance/Repairs) | <ul style="list-style-type: none"> • Front panel filter • Any electronic board other than Synchronous/Demodulation | <ul style="list-style-type: none"> • Calibration • Calibration |

- V.A.1.i. For the monitors specified in V.A.1.f., the replacement monitors, shall be certified in accordance with Condition V.A.4.f.
- V.A.1.j. Replacement ACAMS shall be available for the monitors specified in V.A.1.g. These monitors shall be certified in accordance with Attachment 3 (Sampling, Analytical, and QA/QC Procedures).
- V.A.1.k. Replacement of the oxygen (O₂) and carbon monoxide (CO) monitors specified in V.A.1.f. shall be in accordance with the following:
- V.A.1.k.i. The replacement monitor shall be calibrated in accordance with R315-50-16 [40 CFR Part 266, Appendix IX, 2.1.6.2. for Response Time, and 2.1.6.3 for Calibration Error] immediately after installation.
- V.A.1.k.ii. The replacement monitor shall be calibrated when installed and checked thereafter for Calibration Drift.
- V.A.1.k.iii. The replacement monitoring system shall be calibrated and on-line before the calibration of the first monitor has expired. If this cannot be accomplished, feed to the incinerator or furnace shall be discontinued.
- V.A.1.k.iv. Both monitors for one location may not be replaced within one 24-hour period without approval from the Executive Secretary.

- V.A.1.l. A report specifying the following information shall be submitted to the Executive Secretary within 14 calendar days of replacement of any oxygen (O₂) and carbon monoxide (CO) monitor specified in Condition V.A.1.f.
- V.A.1.l.i. The calibration data, both raw data and Process Data Acquisition and Recording System (PDARS), in accordance with R315-50-16 [40 CFR Part 266, Appendix IX];
- V.A.1.l.ii. Serial numbers, types, and ranges of both failed and replacement monitors;
- V.A.1.l.iii. Date and time the monitor failed;
- V.A.1.l.iv. Maintenance to be performed; and
- V.A.1.l.v. The identity of the incinerator or furnace.
- V.A.1.m. Replacement monitor information in Condition V.A.1.l. shall also be included in the annual report specified in Condition I.AA.

V.A.2. PERFORMANCE STANDARDS

- V.A.2.a. The incinerators and furnaces must achieve a Destruction and Removal Efficiency (DRE) listed in the following table for the chemical agent trial burn principal organic hazardous constituents (POHCs), the chemical agents GB, VX, and Mustard (H/HD/HT), and propellant, explosives, and pyrotechnics (PEP). The DRE shall be calculated by the method specified in R315-14-7.

| Incinerator / Furnace (POHC) | Minimum POHC DRE |
|--------------------------------------|---|
| Each LIC (GB, VX HD) ¹ | 99.9999% |
| MPF (GB, VX, HD) ¹ | 99.99% <u>for heels equal or less than 5 % or 99.9999% greater than 5% heel</u> |
| DFS (GB, VX) ² | 99.99% |
| DFS (PEP) ³ | 99.99% |

Deleted: Agent

Deleted: Agent)

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¹Distilled Mustard (HD) has highest concentration of POHC in Mustard series HD/H/HT.

²A DFS DRE for Mustard not required.

³A one time demonstration during any agent campaign.

- V.A.2.b. The particulate matter emission from the common stack, corrected to 7% oxygen in accordance with the formula given below, shall not exceed 29.8 milligrams per dry standard cubic meter.

Deleted: 34.3

Where:

$$P_c = P_m \times 14 / (21 - Y)$$

P_c = corrected concentration of particulate matter

P_m = measured concentration of particulate matter ppm (dry volume)

Y = measured O₂ in the stack gas

- V.A.2.c. The hydrogen chloride emission from the common stack shall be controlled by limiting the concentration of hydrogen chloride in the exhaust gas from the Pollution Abatement

System of each incinerator to less than 32 parts per million by volume, on a dry basis corrected to 7% oxygen.

Deleted: so that the rate of emission shall not exceed the larger of either four pounds per hour or one percent of the total hydrogen chloride in the combustion gas streams from each incinerator and furnace prior to entering any pollution control equipment.

V.A.2.d. Toxic metals emissions shall be controlled by limiting the agent and agent contaminated waste feed rates to each incinerator and furnace.

V.A.2.e. The Permittee shall control emissions of products of incomplete combustion from each incinerator and furnace such that the carbon monoxide (CO) level in each exhaust duct, corrected to 7% oxygen in accordance with the formula given below, shall not exceed 100 parts per million (ppm), dry volume, over a one-hour rolling average.

$$CO_c = CO_m \times (21 - 7) / (21 - O_m)$$

Where:

CO_c = corrected CO ppm (dry volume)

CO_m = measured CO ppm (dry volume)

O_m = measured % O_2 (dry volume)

V.A.2.f. Compliance with the operating conditions specified in Conditions V.B.2., V.C.2., and V.D.2. shall be regarded as compliance with the required performance standards identified in Conditions V.A.2.a. through V.A.2.e. However, if it is determined that during the effective period of this Permit that compliance with the operating conditions in V.B.2., V.C.2., or V.D.2. is not sufficient to ensure compliance with the performance standards specified in Conditions V.A.2.a. through V.A.2.e., the Permit may be modified, revoked, or reissued, pursuant to R315-3-4.

V.A.3. INSPECTION REQUIREMENTS

V.A.3.a. The Permittee shall inspect each incinerator and furnace in accordance with the inspection requirements of Attachments 5 (Inspection Plan) and 6 (Instrument Calibration Plan and Incinerator Waste Feed Interlock Function Test).

V.A.3.b. The inspection data for the incinerators and furnaces shall be recorded. The records shall be placed in the Operating Record for each incinerator and furnace in accordance with Condition II.I.

V.A.3.c. The following requirements apply when non-routine maintenance or repairs are performed on the Quench Tower, Venturi Scrubber, Scrubber Tower, or Demister. Ancillary equipment is excluded from these requirements.

V.A.3.c.1 The Permittee shall notify the Executive Secretary prior to the non-routine work.

V.A.3.c.2 All work shall be performed in accordance with TOCDF work order procedure (PRP-MG-015), which requires all work to be done in accordance with applicable specifications.

V.A.3.c.3 Quality inspection and verification shall be conducted in accordance with TOCDF quality procedure (PRP-QA-006) and the affected component shall not be put in service until all inspections are complete.

V.A.3.c.4 All work order documentation and manufacturing specifications shall be maintained in TOCDF Document Control for archiving during the life of the facility.

V.A.4. MONITORING REQUIREMENTS

V.A.4.a. The Permittee shall maintain, calibrate, and operate process monitoring, control, and recording equipment as specified in Attachments 3 (Sampling, Analytical, and QA/QC Procedures), 6 (Instrument Calibration Plan and Incinerator Waste Feed Interlock Function Test), 19 (Instrumentation and Waste Feed Cut-off Tables), 20 (Continuous Emission Monitoring System Plans), and 22 (Agent Monitoring Plan); Condition V.A.1.f. and V.A.1.g.; and Conditions V.E.6 through V.E.10 while incinerating hazardous waste.

V.A.4.a.i. The Resource Conservation and Recovery Act (RCRA) monitors shall monitor as described in Conditions V.A.1.f. and V.A.1.g. The following table lists the alarm levels for the common stack, ducts and HVAC stack. Any alarm at or above these levels at the common stack or ducts (when monitoring in accordance with Attachment 22) will cause a waste feed cut-off. If the HVAC stack ACAMS alarm at or above 0.5 VSL for any agent being monitored, a a staged shutdown in accordance with Module X (Air Emission Standards for Equipment Leaks, Tanks, Containers, and the HVAC) shall be performed.

| <u>MONITORING STATION</u> | <u>MONITORING LEVEL</u> | <u>DAAMS Confirmation</u> |
|---|--|--|
| <u>Common Stack³</u> <u>701AG, 701BG, 701CG</u> | <u>0.2 SEL¹</u> | <u>701DG, 701EG</u> |
| <u>Common Stack³</u> <u>706AV, 706BV, 706CV</u> | <u>0.2 SEL¹</u> | <u>706DV, 706EV</u> |
| <u>Common Stack</u> <u>707AH, 707BH, 707CH</u> | <u>0.2 SEL¹</u> | <u>707DH, 707EH</u> |
| <u>DFS Duct</u> <u>702AH, 702BH</u> | <u>0.2 SEL¹</u> | <u>Yes</u> |
| <u>MPF Duct³</u> <u>703C, 703D</u> | <u>0.2 SEL¹ (GB)</u> <u>0.5 SEL¹ (VX)</u> | <u>Yes</u> |
| <u>MPF Duct</u> <u>703AH, 703BH</u> | <u>0.2 SEL¹</u> | <u>Yes</u> |
| <u>LIC 1 Duct</u> <u>704AH, BH</u> | <u>0.2 SEL¹</u> | <u>Yes</u> |
| <u>LIC 2 Duct</u> <u>Duct 705AH, BH</u> | <u>0.2 SEL¹</u> | <u>Yes</u> |
| <u>HVAC Stack</u> <u>601CH, 601DH</u> | <u>0.5 VSL²</u> | <u>Yes</u> |
| <u>HVAC Stack</u> <u>601AV, 601BV for VX</u> <u>601EG, 601FG for GB</u> | <u>0.5 VSL²</u> | <u>Historical/confirmation⁴</u> |
| <u>Notes: ¹SEL(mg/m³): GB=0.0003, VX=0.0003, HD= 0.03</u> <u>² VSL(mg/m³): GB= 0.0001, VX=0.00001, HD=0.003.</u> <u>³. In accordance with Attachment 22, for past agent monitoring requirements.</u> <u>⁴. When processing secondary waste the DAAMS tubes become confirmation tubes. When mustard is the only agent inside the facility boundaries, the tubes are historical.</u> | | |

Deleted: where an ACAMS alarms and causes a waste feed cut-off (common stack or duct ACAMS)

Deleted: or causes a

Deleted: (HVAC ACAMS)

Deleted: of the HVAC shall be initiated,

V.A.4.a.ii. A CEMS monitor may be taken off-line for calibration and minor maintenance as specified in Condition V.A.1.h.

V.A.4.a.iii. Data from the CEMS shall be recorded in the operating record and PDARS.

- V.A.4.a.iv. Data from the O₂ and CO CEMS and staggered, common stack ACAMS monitors shall be used for reporting requirements.
- V.A.4.a.v. All RCRA monitors shall be connected to the waste feed cut-off.
- V.A.4.b. Monitoring of oxygen (O₂), carbon monoxide (CO), and agent shall be provided at all times during waste feed to a furnace or incinerator. If an interruption in monitoring (CO, O₂ or agent) occurs, feed to that furnace shall be discontinued except as allowed in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables). If the duct is not monitored by an ACAMS, then the DAAMS tubes shall be analyzed for that time period the ACAMS was off-line. Monitoring shall resume in accordance with Attachment 22 (Agent Monitoring Plan).
- V.A.4.c. Hazardous wastes shall not be fed to an individual incinerator or furnace if any one of the monitoring instruments listed in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables) pertaining to that incinerator or furnace fails to operate properly.
- V.A.4.d. Upon receipt of a written request from the Executive Secretary, the Permittee shall perform sampling and analysis of the waste and exhaust emissions to verify that the operating requirements established in the Permit achieve the performance standards delineated under Condition V.A.2.
- V.A.4.e. All monitoring, recording, maintenance, calibration, and test data shall be recorded and the records shall be placed in the operating record for each furnace in accordance with Condition II.I.
- V.A.4.f. The oxygen (O₂) and carbon monoxide (CO) monitors specified in Condition V.A.1.f. shall be certified in accordance with R315-50-16 [40 CFR Part 266, Appendix IX and 40CFR Part 60, Appendix B, using the most stringent requirements.
- V.A.4.f.i. Certification or recertification must be accepted by the Executive Secretary.
- V.A.4.f.i.a. Interim approval of certification or recertification test results may be granted by the Executive Secretary, based upon a review of preliminary data and observations made during the certification testing, to allow operation of the monitor for compliance prior to submission of the final certification or recertification report.
- V.A.4.f.ii. A certified monitor may only receive minor modifications and still remain certified.
- V.A.4.f.iii. Condition V.A.1.h.i classifies CEMS repairs and maintenance as major changes or minor changes.
- V.A.4.f.iv. Written approval from the Executive Secretary shall be required for downgrading a major change to a minor change.
- V.A.4.f.v. Each monitor shall be recertified annually, in accordance with R315-50-16 [40 CFR266, Appendix IX] and 40CFR Part 60, Appendix B using the most stringent requirements. This recertification shall be initiated within or before the calendar quarter of the certification anniversary date. The current certification shall remain in effect until a determination is made on the recertification.

V.A.4.f.vi. The certification date shall be the first day of certification testing.

V.A.4.g. Pursuant to Attachment 22 (Agent Monitoring Plan), the Permittee shall monitor and control emissions of chemical agents from each incinerator, furnace, and the common stack. The emission level measured by each monitoring system shall not exceed the following concentrations:

| | Chemical Agent Concentration (mg/m ³) | | |
|--------------------------------|---|---------|--------|
| | GB | H/HD/HT | VX |
| Maximum Stack Emission: | 0.0003 | 0.03 | 0.0003 |

V.A.5. CLOSURE

V.A.5.a. At closure, the Permittee shall follow the procedures in Attachment 10 (Closure Plan).

V.A.6. RECORDKEEPING

V.A.6.a. The Permittee shall record and maintain, in the operating record for each incinerator and furnace, all monitoring and inspection data compiled under the requirements of this Permit, in accordance with Condition II.I.

V.A.6.b. The Permittee shall record in the operating record the date, time, and duration of all automatic waste feed cut-offs, including the triggering parameters, reason for the deviation that resulted in a waste feed cut-off, and corrective measures taken to prevent recurrence of the incident. The Permittee shall also record all incidents of the automatic waste feed cut-off function failures, including the corrective measures taken to alleviate the condition that caused the failure.

V.B. LIQUID INCINERATORS (LICs)

All numeric values included in any of the Conditions under V.B., which are marked with an asterisk (*), (except numeric values for agent GB, which have previously been approved) are tentative and may be modified by permit modification after the results of each trial burn have been evaluated by the Executive Secretary in accordance with R315-8-15.5(c). The Executive Secretary reserves the right to replace the values, which are marked with an asterisk as necessary to be protective of human health and the environment.

V.B.1. LIMITATION ON WASTE FEED

V.B.1.a. Except during the short-term periods specified in Module VI for shakedown, trial burn, and post-trial burn, the Permittee shall incinerate only the following hazardous wastes in each LIC, in compliance with the operating requirements specified in Condition V.B.2.

| DESCRIPTION OF HAZARDOUS WASTES | LIC 1 & LIC 2 COMBUSTION CHAMBER | MAXIMUM FEED RATE lbs/hour |
|--|----------------------------------|----------------------------|
| Chemical Agents (P999, D002, D003, D004, D006, D007, D008, D009, D010, D011, D028, D034, and D039) | | |
| | | |
| | | |

Deleted: The heat input of the waste to the Primary Combustion Chamber (PCC) of each LIC shall not exceed 8,400,000 BTU/hr (based on agent GB feed rate.)

Deleted: and

Deleted: GB

Deleted: Primary

Deleted: 833

Deleted: VX

Deleted: Primary

Deleted: 580*

| | | | |
|--|-------------------|--------|----------------|
| Mustard (H/HD/HT) | Primary | 1,275* | Deleted: 160 |
| Miscellaneous Agent Contaminated Liquid Wastes (P999, F999, D001, D002, D003, D004, D006, D007, D008, D009, D010, D011, D018, D034, D039, D040, D043, F002, and F005) as identified in Attachment 2 (Waste Analysis Plan), Section 2.2.1.15 | | | |
| GB | Primary | 833 | |
| VX | Primary | 580* | |
| Mustard (H/HD/HT) | Primary | 1,160* | |
| Spent Decontamination Solutions (F999, D001, D002, D003, D004, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D034, D039, D040, D043) as identified in Attachment 2 (Waste Analysis Plan), Section 2.2.2.22. | | | |
| GB | Primary/Secondary | 1,790 | |
| VX | Primary/Secondary | 1,790* | |
| Mustard (H/HD/HT) | Primary/Secondary | 2,100* | Deleted: 1,790 |

- V.B.1.a.i. Only one chemical agent, or waste containing one chemical agent, shall be fed to the primary combustion chamber of the LIC at any given time.
- V.B.1.a.ii. The spent decontamination solution or the miscellaneous agent contaminated wastes may be burned either in the primary combustion chamber or secondary combustion chamber but not at the same time. If these wastes are burned in the secondary combustion chamber, then only agent may be fed to the primary combustion chamber at the same time.
- V.B.1.b. The Permittee shall not incinerate any chemical agent, or any waste containing the chemical agent, for which treatment has not been successfully demonstrated through a trial burn in accordance with Module VI or by other means approved by the Executive Secretary.
- V.B.1.c. The Permittee shall not incinerate any hazardous waste in the LICs that contains R315-50-10 organic hazardous constituents, which are more difficult to destroy than the material demonstrated in the surrogate trial burn.
- V.B.1.d. The feed rate of chlorine to each LIC shall not exceed **TBD*** pounds per hour, over a twelve-hour rolling average.
- V.B.1.e. Non-hazardous waste simulant test materials may be fed to either the primary or secondary combustion chambers to verify operating performance at the start of an agent or munition campaign, following maintenance, or after an approved furnace system modification.
- V.B.1.f. Only liquid, pumpable, waste with a maximum viscosity of 10 centipoise at 25° C shall be incinerated in the LIC.
- V.B.1.g. The Permittee shall conduct sufficient analysis of all waste treated in the LICs to verify that the waste feed is within the physical and chemical composition limits specified, in accordance with the waste analysis requirements in Attachment 2 (Waste Analysis Plan) and Attachment 3 (Sampling, Analytical, and QA/QC Procedures).

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V.B.1.h. Metals feed rates to each LIC shall not exceed the values specified in Table V.1 located at the end of this Module.

V.B.2. OPERATING CONDITIONS

V.B.2.a. All operating conditions shall be monitored in accordance with the Monitoring Requirements in V.A.4. The Permittee shall monitor emissions of chemical agent from each incinerator duct (LIC #1, LIC #2), and the common stack, as specified in Condition V.A.4. The waste feed(s) to the corresponding incinerator(s) shall be automatically cut off if any of the monitored operating conditions deviate from the values specified in Tables D-5-2A and D-5-2B in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).

V.B.2.b. Primary combustion chamber exhaust gas temperature shall be maintained at or above TBD° F, over a one-hour rolling average, but shall not reach or exceed 2,850° F.

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V.B.2.c. Secondary combustion chamber exhaust gas temperature shall be maintained at or above TBD° F, over a one-hour rolling average, but shall not reach or exceed 2,200° F.

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V.B.2.d. Carbon monoxide in the exhaust blower exit gas, shall be corrected to 7% oxygen in accordance with the formula specified in Condition V.A.2.e., and shall be maintained below 100* ppm, dry volume, over a one-hour rolling average.

V.B.2.e. LIC exhaust gas flow rate or unit production rate (as measured by the V-Cone) shall not exceed TBD* standard cubic feet per minute, over a one-hour rolling average.

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V.B.2.f. If the exterior shell temperature of the slag removal system reaches or exceeds 500° F, all waste feed to the LIC system shall be stopped. Shell integrity shall be verified, and recorded in the operating record, before wastes are re-introduced into the furnace system.

V.B.2.g. Atomizing air pressure for the waste burner nozzles, for both chemical agent and decontamination solution shall be maintained at or above the following set points:

V.B.2.g.i. Primary Combustion Chamber, All Feed Rates (1-100%) - 60* psig.

V.B.2.g.i.a. The Permittee may disable the Automatic Waste Feed Cut-Off associated with Condition V.B.2.g.i. when the waste burner nozzle for the primary chamber is removed and agent feed to the LIC is isolated.

V.B.2.g.ii. Secondary Combustion Chamber, All Feed Rates (1-100%) - 60* psig.

V.B.2.h. Reserved.

V.B.2.i. The Permittee shall control fugitive emissions from the combustion zone of the LIC by the sealed system design of the LIC combustion chambers.

Deleted: maintaining the pressure in the primary combustion chamber below the furnace room pressure.

V.B.2.j. Quench tower exhaust gas temperature shall not exceed 225° F.

V.B.2.k. Exhaust gas pressure drop across the venturi scrubber shall be maintained above TBD* inches of water column over a one-hour rolling average.

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| V.B.2.l. | Brine feed rate to the venturi scrubber shall be maintained above <u>TBD*</u> gallons per minute over a one-hour rolling average and <u>delivery pressure shall be maintained above 40* psig.</u> | Deleted: 100 |
| V.B.2.m. | Clean liquor feed rate to the scrubber tower shall be maintained above 400* gallons per minute, <u>over a one-hour rolling average</u> and <u>delivery pressure shall be maintained above 35* psig.</u> | Deleted: 2 Deleted: , over a one-hour rolling average. |
| V.B.2.n. | Quench Brine shall be maintained above a pH of <u>TBD*</u> over a one-hour rolling average. | Deleted: 7.0 |
| V.B.2.o. | Scrubber liquid effluent shall not reach or exceed <u>TBD*</u> specific gravity units, over a twelve hour rolling average. | Deleted: 1.15 |
| V.B.2.p. | Oxygen concentration in the exhaust blower exit gas, shall be maintained above 3%*, but shall not reach or exceed 15%* oxygen on a dry volume basis. | |
| V.B.2.q. | Reserved. | |
| V.B.2.r. | Reserved | |
| V.B.2.s. | The maximum agent feed rate to the LIC primary combustion chamber shall not reach or exceed <u>TBD*</u> pounds per a one-hour rolling average. | Deleted: nerve Deleted: 593 |
| V.B.2.t. | Reserved | |
| V.B.2.u. | Reserved. | |
| V.B.2.v. | The maximum spent decontamination solution feed rate to the LIC secondary combustion chamber shall not reach or exceed <u>TBD*</u> pounds per a one-hour rolling average. | Deleted: 1,790 |
| V.B.2.w. | During cold start-ups of LIC1 or LIC2, the primary chamber waste feed nozzle shall not be installed and the waste feed control valve shall not be opened until the secondary combustion chamber is at 1,550*° F or higher as measured by thermocouples 13-TIC-103 (for LIC1) or 13-TIC-781 (for LIC2). | |
| V.B.3. | <u>WASTE FEED CUT-OFF REQUIREMENTS</u> | |
| V.B.3.a. | The Permittee shall maintain and operate the systems specified in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables) to automatically cut off the hazardous waste feed to the LIC when the monitored operating conditions deviate from the set-points specified. | |
| V.B.3.b. | In the event of a malfunction of the LIC automatic waste feed cut-off systems listed in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables) the Permittee shall immediately, manually, cut off the waste feed to the LIC and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunctions, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunctions, and specific steps taken to repair the malfunction and avoid similar future malfunctions. | |
| V.B.3.c. | The Permittee shall perform a waste feed cut-off function test no less than once every 14 days. No waste shall be fed to the LIC during the function test. If the LIC is not | |

| | (min) | | | | | |
|---|-------|------|------|------|---|------|
| Mustard Ton Container (Charge Wt./Charge Interval Set #1) (<197 lbm agent)) | TBD* | TBD* | TBD* | TBD* | 1 | TBD* |
| Mustard Ton Container (Charge Wt./Charge Interval Set #2) (<439 lbm agent) | TBD* | TBD* | TBD* | TBD* | 1 | TBD* |
| Mustard Ton Container (Charge Wt./Charge Interval Set #3) (< 632 lbm agent) | TBD* | TBD* | TBD* | TBD* | 1 | TBD* |
| NOTES: ¹ TBD-To be determined ² Maximum mustard (H/HD/HT) charge weight successfully demonstrated during MPF HD Ton Container Agent Trial Burn for condition using ton containers with solids as waste feed. ³ Calculated as the mustard charge weight divided by the charge time (i.e., Zone 1 timer set point plus tray transition time) demonstrated during the MPF HD Ton Container Agent Trial Burn (e.g., 500 pound charge weight with 2 hour Zone 1 timer equals feed rate of 250 lbs/hr). ⁴ Values based on Discharge Air Lock (DAL) Low Temperature Monitoring (LTM) results obtained during agent trial burn, or as determined through compliance with Condition V.C.1.a.i.c. The zone times presented represent the zone timer set point and do not include the zone transfer time, which is a constant attribute of the MPF feed system. | | | | | | |

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V.C.1.a.i.a. Mustard ton containers that are sampled in Area 10 with liquid sample analytical results having mercury concentrations of less than one part per million (ppm) may be processed in the MPF before installation of Pollution Abatement System equipment designed to control emissions of mercury from the MPF.

V.C.1.a.i.b. Mustard ton containers that are sampled in Area 10 with liquid sample analytical results having mercury concentrations equal to one ppm or greater shall not be processed in the MPF until installation of pollution abatement system equipment designed to control emissions of mercury from the MPF.

V.C.1.a.i.c. The charge weights and charge intervals for ton containers may be adjusted to create charge weight and charge interval sets having an equivalent feed rate, on a pounds per hour basis, to that demonstrated during the Agent Trial Burn. Desired charge weight and charge interval sets that differ from those demonstrated during the Agent Trial Burn shall be calculated as follows:

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$$(Charge\ Wt_{ath} * Charge\ Int_{ath}) = Charge\ Wt_{set\ n} * Charge\ Int_{set\ n}$$

where:

Charge Wt_{ath} = Charge weight demonstrated during the Agent Trial Burn (pounds/charge).

Charge Int_{ath} = Charge interval demonstrated during the Agent Trial Burn (charge/hour).

Charge Wt_{set n} = Charge weight (pounds/charge); charge weight shall not exceed maximum weight demonstrated during Agent Trial Burn.

Charge Int_{set n} = Charge interval (charge/hour); charge time shall be the greater of the result calculated from the equation above or the minimum charge time of 42 minutes (35 minutes for Zone 1 timer plus 7 minutes for zone to zone tray transition time).

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V.C.1.a.i.c.i. For each desired charge weight and charge interval set that includes a charge interval that is greater than the charge interval demonstrated during the trial burn (i.e., the charge time is less than the charge time demonstrated during the trial burn), the Permittee shall:

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V.C.1.a.i.c.ii. Collect a treatment residue sample from each of the first three ton containers processed. The samples shall be analyzed to ensure the Mustard content in the residue is below the Waste Control Limit specified in Attachment 2 (Waste Analysis Plan) for the agent being processed, and

V.C.1.a.i.c.iii. Submit to the Executive Secretary a revised Condition V.C.1.a.i. feed table incorporating the charge weight and associated primary combustion chamber zone and DAL timer set points and the results of the treatment residue agent analysis.

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V.C.1.a.i.d. As an alternative to the “charge interval versus charge weight” feed rate compliance strategy discussed in Condition V.C.1.a.i.c, a “charge interval versus primary chamber temperature response” feed rate compliance strategy may be used, provided:

V.C.1.a.i.d.i The Permittee submits to the Executive Secretary a revised Condition V.C.1.a.i with sufficient justification, and

V.C.1.a.i.d.ii. The Executive Secretary approves the alternate MPF Mustard ton container feed rate compliance strategy proposed by the Permittee.

V.C.1.a.ii. Agent Contaminated Secondary Waste

V.C.1.a.ii.a. Agent Contaminated Secondary Waste may be treated in the MPF. The MPF DAL shall be monitored for all agents by the low temperature monitoring protocol. The maximum charge weight of secondary waste for each category is specified Table V.C.1 below, based on a minimum 75-minute furnace charge interval:

| Category Feed Rates Table V.C.1 | | | |
|---|---|---|---|
| Secondary Waste Category | Waste Stream Subcategory/ Component | Maximum Tray Limit (per charge) | Pounds per 12 hours, on 12 hour rolling average basis |
| Net Weight of WIC/Container ³ Contents | Net Weight of WIC/Container ³ Contents | 2410 pounds maximum | |
| Combustible Bulk Solid Waste | Ash Content | 83* lbs. | 719* lbs. |
| | Halogen Content | 163*lbs. | 1566* lbs. |
| | BTU Content | 4.9* Million BTUs | |
| | Agent-Contaminated Spill Absorbents | 45* lbs | |
| | Non-Embedded Metals ⁴ Group 1 (High-Volatile Metals) | Mercury (D009) | 0.0317* |
| | Non-Embedded Metals ⁴ Group 2 Semi-volatile Metals | Lead (D008) Cadmium (D006) Antimony Thallium Tin Zinc | 272* |
| | Non-Embedded Metals ⁴ Group 3 Low Volatile Metals | Arsenic (D004) Chromium (D007) Barium (D005) Boron Cobalt Copper Selenium (D010) Silver (D011) Beryllium Aluminum Manganese Nickel Vanadium | 197* |
| Non-Combustible Bulk Solid Waste | Aluminum | 1000* lbs. | |
| | Glass/Ceramics | 2410* lbs. | |
| | Miscellaneous Metal | 2410* lbs. | |
| | Carbon Filter Cartridges- Aluminum Housing only | 25* each | |
| | Building Materials | Concrete | To Be Determined ² * |
| | | Foam Core Panels | To Be Determined ² * |
| Sludge | ACS, AQS, SDS Agent-Contaminated Sludges and Aqueous Wastes | 45* lbs. | |
| Table Notes | | | |
| Note 1: Unless successive trays are tracked to ensure the 12-hour limit is not exceeded, each WIC shall not exceed any one of the indicated limits. The indicated limits may be exceeded on a WIC as long as the 12-hour are complied with by limiting feeds on | | | |

| | |
|---------|---|
| | subsequent trays. If each WIC is limited to the indicated limits, the 12-hour limit will not be exceeded. |
| Note 2: | Successful treatment of these materials must be approved by the Executive Secretary |
| Note 3: | Waste Incineration Containers (WICs) are defined as the assembly of metal components that is used to contain, feed, and convey individual charges of secondary wastes and their resulting treatment residues through the MPF (i.e., Cut-away Ton Containers (CTCs), burn trays, rectangular open topped baskets equipped with catch pan). |
| Note 4: | Non-embedded metals are metals that may vaporize or become entrained in the combustion gas air during thermal treatment. |

V.C.1.a.iii. Secondary wastes may be treated in the MPF only if the following conditions are met:

V.C.1.a.iii.1 The waste is evaluated and assigned to one of the secondary waste categories listed in the first column of the table; net weight of container, combustible bulk solid waste, noncombustible bulk solid wastes or sludge. Wastes associated with Condition V.C.1.a.ii., may not be fed.

V.C.1.a.iii.2 The waste is arranged upon the burn tray in a configuration approved by the Executive Secretary in accordance with Condition VI.C.3.a.i.b.

V.C.1.a.iii.3 A description of the waste and the categorization basis are documented in the operating record verifying feed rates are not exceeded.

V.C.1.a.iii.4 The containment of the container (WIC, CTC or burn tray) may not be exceeded.

| V.C.1.a.iv. Secondary wastes generated during different agent campaigns may be fed separately or on the same tray provided the following conditions are met:

V.C.1.a.iv.1 The MPF discharge airlock is equipped to monitor all agents contaminating the wastes fed to the MPF.

V.C.1.a.iv.2 The MPF exhaust duct is equipped to monitor the agents contaminating the wastes fed to the MPF.

V.C.1.a.iv.3 The Common Stack is equipped to monitor the agents contaminating the wastes fed to the MPF.

V.C.1.a.iv.4 An MPF Destruction and Removal Efficiency has been determined, or an alternate means has been approved by the Executive Secretary for the agent contaminating the secondary wastes to be treated in the MPF

V.C.1.a.v. All non-munition wastes that envelop an interior space (e.g. gauges, cans, escape air tanks, overpacks, glassware, etc.) must be opened or punctured before being placed in the MPF.

V.C.1.a.vi. The wastes identified in V.C.1.a.ii. shall not be inside the MPF at the same time the wastes identified in V.C.1.a.i. are inside the MPF.

V.C.1.a.vii Secondary Waste identified in Table 2-5 of Attachment 2, Waste Analysis Plan, may be processed during the Shakedown and post Trial burn periods for agent that has been successfully demonstrated per condition VI.C.3.a.i.c.1. at the specified feed rate without further function testing.

V.C.1.a.viii The Permittee shall maintain records that differentiate and document between the Shakedown hours attributed to the processing of waste to be demonstrated during the trial burn/demonstration test and hours attributed to the processing of secondary waste per Condition V.C.1.a.viii.

V.C.1.b. The Permittee shall not incinerate any chemical agent, or any waste containing the chemical agent, for which treatment has not been successfully demonstrated through a trial burn in accordance with Module VI or by other means approved by the Executive Secretary.

V.C.1.c. The Permittee shall not incinerate any hazardous waste in the MPF that contains organic hazardous constituents as described in R315-50-10, that are more difficult to destroy than the material demonstrated in the surrogate trial burn.

V.C.1.d. The feed rate of total halogens to the MPF shall not exceed 1820* total pounds per hour, over a twelve hour rolling average or 263* total pounds per each furnace charge.

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V.C.1.e. The Permittee shall drain liquid from secondary waste. The separated liquid will be categorized and treated as an agent-contaminated sludge per Table V.C.1.

V.C.1.f. The Permittee shall conduct sufficient analysis of the waste treated in the MPF to verify that the waste feed is within the physical and chemical composition limits specified, in accordance with the waste requirements in Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures).

V.C.1.g. Reserved

V.C.1.h. The feed rate of ash to the MPF shall not exceed 840* total pounds over a twelve-hour rolling average or 121 total pounds per each furnace charge.

Deleted: Items with VX heels in excess of 5% by weight shall not be processed unless a procedure protective of human health and the environment has been incorporated into this Permit in accordance with procedures specified in R315-3-4.

V.C.1.i. The non-embedded metals feed rates to the MPF shall not exceed the values specified in Table V.2 at the end of this Module.

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V.C.2. OPERATING CONDITIONS

V.C.2.a. All operating conditions shall be monitored in accordance with the Monitoring Requirements in V.A.4. The Permittee shall monitor emissions of chemical agent from the MPF duct and the common stack as specified in Condition V.A.4.a. The waste feed(s) to the incinerator shall be automatically cut off if any of the monitored emission levels exceed the values specified in Table D-6-2 in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).

V.C.2.b. Only one loaded tray containing the waste materials shall be fed into the MPF at any given time. The minimum time intervals between each tray feed are specified in Conditions V.C.1.a.i. and V.C.1.a.ii.

V.C.2.c. The hourly feed rate of the residual chemical agent contained in the MPF feed, shall not exceed the limits specified in Condition V.C.1.a.i.

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V.C.2.d. The number of munition units fed to the MPF per batch feed shall not exceed the limit specified in Condition V.C.1.a.i.

| | | |
|----------|---|-----------------------------|
| V.C.2.e. | The temperature of all three zones of the primary chamber shall be maintained above <u>TBD*</u> ° F and shall not exceed 1,800*° F. | Deleted: 1200 |
| V.C.2.f. | The MPF afterburner temperature shall be maintained above <u>TBD*</u> ° F over a one-hour rolling average and shall not exceed 2,175*° F. | Deleted: 7 Deleted: 1800 |
| V.C.2.g. | Carbon monoxide concentration in the exhaust blower exit gas and corrected to 7 % oxygen in accordance with the formula specified in Condition V.A.2.e., shall be maintained below 100 ppm, dry volume, over a one-hour rolling average. | |
| V.C.2.h. | The MPF exhaust gas flow rate, or unit production rate (as measured by the V-Cone), shall not exceed <u>TBD*</u> standard cubic feed per minute, over a one-hour rolling average. | Deleted: 7,893 |
| V.C.2.i. | Oxygen concentration in the exhaust blower exit gas shall be maintained above 3* % oxygen but shall not reach or exceed 15* % oxygen on a dry volume basis. | |
| V.C.2.j. | The Permittee shall control fugitive emissions from the combustion zone of the MPF by maintaining the pressure in the primary chamber below the pressure of the MPF furnace room. | |
| V.C.2.k. | Quench tower exhaust gas temperature shall not exceed 225*° F. | |
| V.C.2.l. | Exhaust gas pressure drop across the venturi scrubber shall be maintained above <u>TBD*</u> inches of water column over a one-hour rolling average. | Deleted: 20 |
| V.C.2.m. | Scrubber liquid feed rate to the venturi scrubber shall be maintained at or above <u>TBD*</u> gallons per minute, over a one-hour rolling average and above a minimum pressure of 70* psig. | Deleted: 50 |
| V.C.2.n. | Clean liquor liquid feed rate to the scrubber tower shall be maintained above <u>TBD*</u> gallons per minute over a one-hour rolling average. | Deleted: 400 |
| V.C.2.o. | Clean liquor liquid delivery pressure to the scrubber tower shall be maintained above 35* pounds per square inch gauge, over a one hour rolling average. | Deleted: 25 |
| V.C.2.p. | Quench Brine pH shall be maintained above a pH of <u>TBD*</u> , over a one-hour rolling average. | Deleted: 7.0 |
| V.C.2.q. | Scrubber liquid effluent shall not reach or exceed <u>TBD*</u> specific gravity units, over a twelve hour rolling average. | Deleted: 1.12 |
| V.C.2.r. | The MPF Discharge Airlock shall be cooled to less than 600° F and monitored via low-temperature monitoring in accordance with Attachment 22 <u>monitoring procedures</u> if any of the following upset alarms occur as specified in the table below for the <u>mustard munitions/bulk containers</u> in the furnace at the time of the upset. <u>A mustard monitoring plan for the discharge airlock will be submitted and approved by the Executive Secretary prior to commencing shakedown:</u> | Deleted: contents |

| Tag Number | Limit | Descriptions |
|---|--|--|
| 14-TIT-152 or 14-TIT-391 | $\geq \text{TBD}^1 \text{ } ^\circ\text{F}$ | Furnace Temperature (Zone 1) |
| 14-TIT-141 or 14-TIT-392 | $\geq \text{TBD}^1 \text{ } ^\circ\text{F}$ | Furnace Temperature (Zone 2) |
| 14-TIT-153 or 14-TIT-393 | $\geq \text{TBD}^1 \text{ } ^\circ\text{F}$ | Furnace Temperature (Zone 3) |
| 14-TIT-065 or 14-TIT-069 | $\leq 1800^\circ\text{F}$ | MPF Afterburner Temperature Low-Low |
| 14-TIT-065 or 14-TIT-069 | $> 2175^\circ\text{F}$ | MPF Afterburner Temperature High-High |
| 14-PDIT-786 | $\geq 1.2 \text{ in. w.c.}$ | Afterburner Exhaust Gas Velocity Pressure High |
| 14-AIT-384m | $\geq 1000 \text{ ppm 1-minute average.}$ Correct to 7% -O ₂ , dry volume | Blower Exhaust CO Concentration. Average of 4 consecutive data points excluding points of calibration. Approximately 1- minute average. |
| 24-AIT-669m | $\geq 1000 \text{ ppm 1minute average.}$ Correct to 7% -O ₂ , dry volume | Blower Exhaust CO Concentration. Average of 4 consecutive data points excluding points of calibration. 1- minute average. |
| 14-AIT-082 | $\leq 3\% \text{ O}_2$ | Blower Exhaust O ₂ |
| 14-AIT-082 | $\geq 15\% \text{ O}_2$ | Blower Exhaust O ₂ 60 second delay |
| 24-AIT-670 | $\leq 3\% \text{ O}_2$ | Blower Exhaust O ₂ |
| 24-AIT-670 | $\geq 15\% \text{ O}_2$ | Blower Exhaust O ₂ 60 second delay |
| PAS 703 AH/BH | $\geq 0.2 \text{ SEL}$ for Mustard Malfunctions not included. | PAS Blower Exhaust Agent Detected |
| PAS 707 AH/BH/CH | $\geq 0.2 \text{ SEL}$ Malfunctions not included. | Common Stack Exhaust Agent Detected |
| 14-TIT-010 | $\geq \text{TBD}^* \text{ } ^\circ\text{F}$ | Primary Chamber Exhaust Temperature. Mustard Ton Containers |
| 14-TIT-010 | $\geq 1727^\circ\text{F}$ | Primary Chamber Exhaust Temperature. Projectile Trays |

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Temperature. VX Hydrolysate 5-Gallon
Containers

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¹ To Be Determined during shakedown per an approved DAL monitoring plan.

- V.C.2.s. The following items shall be documented in the daily operating record:
- V.C.2.s.i. The monitoring protocol, either high temperature or low temperature
- V.C.2.s.ii. The time the tray entered the discharge airlock

V.C.2.s.iii. The time the switch is activated to monitor the DAL instead of filtered air

V.C.2.s.iv. The agent monitoring readings in the discharge airlock for all agent types being processed at the time of occurrence

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V.C.2.s.v. Reserved

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V.C.2.s.vi. The time the tray exited the discharge airlock into the cool-down area

V.C.3. WASTE FEED CUT-OFF REQUIREMENTS

V.C.3.a. The Permittee shall construct and maintain the systems, specified in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables) to automatically cut off the hazardous waste feed to the MPF when the monitored operating conditions deviate from the set-point specified.

V.C.3.b. In the event of a malfunction of the MPF automatic waste feed cut-off systems listed in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables) the Permittee shall immediately, manually, cut off the waste feed to the MPF and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunctions, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunctions, and specific steps taken to repair the malfunction and avoid similar future malfunctions.

V.C.3.c. The Permittee shall perform a waste feed cut-off function test no less than once every 14 days. No waste shall be fed to the MPF during the function test. If the MPF is not operational (i.e., shut down), the Permittee shall perform the function test when the MPF becomes operational, prior to waste feed. Idling shall not be considered as "shut down." A copy of each function test shall be placed in the Operating Record.

V.D. DEACTIVATION FURNACE SYSTEM (DFS)

All numeric values included in any of the Conditions under V.D. which are marked with an asterisk (*) (except numeric values for agent GB, which have previously been approved) are tentative and may be modified after the results of each trial burn have been evaluated by the Executive Secretary, in accordance with R315-8-15.5(c). The Executive Secretary reserves the right to replace the values, which are marked with an asterisk as necessary to be protective of human health and the environment.

V.D.1. LIMITATION ON WASTE FEED

V.D.1.a. Except during the short-term periods specified in Module VI for shakedown, trial burn, and post-trial burn, the Permittee shall incinerate only the following hazardous wastes in the DFS, in compliance with the operating requirements specified in Condition V.D.2.

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Deleted: 155-mm PROJ M121 ... [28]

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Deleted: 1. The VX and explosives feed rates are based upon 70 mines being fed in an hour. Mine Component Containers (MCCs) do not contain agent and contain less explosives than mines. The VX and explosives feed rates presented are therefore conservative since MCCs will be fed along with the mines and will count as a unit when determining compliance with the maximum units/hr limit presented above.

| Waste Codes: P999, D002, D003, D004, D005, D006, D007, D008, D009, D010 | | | |
|---|---------------------------|--|--|
| Agent Feed Rate (lbs/hr)¹: Not Applicable for Mustard (H/HD/HT) | | | |
| Propellant/Explosive Pyrotechnic (PEP) Feed Rate (lbs/hr)²: 479 | | | |
| ECR Maintenance Residue Feed Rate (lbs/drop)³: 3.6 | | | |
| Item Type | PEP (lbs/item) | Maximum Item Processing Rate (items/hr) | Equivalent PEP Feed Rate (lbs/hr) |
| <u>4.2" Mortar bursters and fuses⁴</u> | <u>0.14</u> | <u>274</u> | <u>38.4</u> |
| <u>155-mm Projectiles bursters and supplemental charges⁵</u> | <u>1.13</u> | <u>276</u> | <u>312</u> |
| <u>NOTES:</u> | | | |
| ¹ <u>An agent feed rate to the DFS is not applicable during the Mustard Campaign since mustard is not drained from mustard containing munitions in the ECRs (i.e., drained munition casings are not fed to the DFS during Mustard Campaign). P999 waste code is retained to account for incidental mustard contamination that may be on bursters removed from leaking munitions.</u> | | | |
| ² <u>PEP feed rate demonstrated during DFS VX Agent Trial Burn.</u> | | | |
| ³ <u>ECR Maintenance Residues allowed to be processed are identified in Attachment 2, Table 2-2a of this permit. When processing ECR Maintenance Residues an internal kiln spacing of one flight between successive drops.</u> | | | |
| ⁴ <u>4.2" HD and HT mortars contain the same type and amount of explosives.</u> | | | |
| ⁵ <u>Types 104 and 110 155mm projectiles contain the same type and amount of explosives.</u> | | | |

V.D.1.a.i.

Energetic from only one munition type (i.e., 155mm projectile energetics or 4.2" mortar energetics), or waste generated from, one chemical agent campaign, shall be fed to the DFS, at any given time.

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- V.D.1.a.ii. ECR maintenance residues shall be fed at a rate not to exceed the agent feed rate demonstrated during the DFS VX trial burn. ▼
- V.D.1.a.iii. Reserved.
- V.D.1.b. The Permittee shall not incinerate any chemical agent, or any waste containing the chemical agent, for which treatment has not been successfully demonstrated through a trial burn in accordance with Module VI or by other means approved by the Executive Secretary.
- V.D.1.c. The Permittee shall not incinerate any hazardous waste in the DFS that contains organic hazardous constituents as described in R315-50-10, that are more difficult to destroy than the material demonstrated in the surrogate trial burn.
- V.D.1.d. The feed rate of chlorine to the DFS shall not exceed 6.4* pounds per hour over twelve hour rolling average.
- V.D.1.e. Reserved.
- V.D.1.f. The Permittee shall conduct sufficient analysis of the waste treated in the DFS to verify that the waste feed is within the physical and chemical composition limits specified, in accordance with the waste analysis requirements in Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures).
- V.D.1.g. The non-embedded metals feed rates to the DFS shall not exceed the values specified in Table V.3 at the end of this Module.

V.D.2. OPERATING CONDITIONS

- V.D.2.a. All operating conditions shall be monitored in accordance with the Monitoring Requirements in V.A.4. The Permittee shall monitor emissions for chemical agent from the DFS and the common stack, as specified in Condition V.A.4.a. The waste feed(s) to the incinerator shall be automatically cut off if any of the monitored emission levels exceed the values specified in Table D-7-2 in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).
- V.D.2.b. The hourly feed rate and maximum feed weight of the chemical agent contained in the DFS feed, demonstrated during the agent trial burn, shall not exceed the limits provided in Condition V.D.1.a. An agent feed rate to the DFS is not applicable during the Mustard Campaign since Mustard is not drained from Mustard munitions in the ECRs. The P999 waste code is retained to account for incidental Mustard contamination that may be on busters removed from leaking munitions.
- V.D.2.c. The number of munition units fed to the DFS in one hour shall not exceed the limit specified in Condition V.D.1.a.
- V.D.2.d. The temperature of the unquenched DFS rotary kiln exhaust gas shall be maintained above 950*° F, over a one-hour rolling averageV.D.2.e. The temperature of the quenched DFS rotary kiln exhaust gas shall not exceed 1,650*° F.
- V.D.2.f. Reserved.

Deleted: When processing ECR sump sludge generated during rocket processing, the kiln speed shall not exceed one rpm for a minimum of 15 minutes after the feed of maintenance residues and the HDC shall be placed in slow speed for a minimum of one hour after feeding ECR maintenance residues. This weight is assumed to be agent.

Deleted: The Permittee may process M55 rockets and projectiles simultaneously in the DFS provided that the combined waste feed thermal feed rate does not exceed 6.92* million BTU/hour, the combined propellant, explosive, and pyrotechnic feed rate does not exceed 125.8* pounds per hour; and the individual munition feed rates do not exceed the limits specified in Condition V.D.1.a. Non-gelled rockets shall be punched and drained prior to processing in the DFS.

- V.D.2.g. The temperature of the heated discharge conveyor shall be maintained above 1,000*° F.
- V.D.2.h. The rate of movement of the heated discharge conveyor shall be controlled to provide a minimum solid retention time of 15* minutes inside the heated enclosure.
- V.D.2.i. The rotational speed of the retort shall be maintained within the following parameters:
- V.D.2.i.i. The speed shall not reach or exceed two* revolutions per minute (rpm);
- V.D.2.i.ii. Except when in oscillation mode, the speed shall not reach or drop below 0.33 rpm;
- V.D.2.i.iii. Hazardous waste shall not be fed while the retort is in oscillation mode unless as provided in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).
- | V.D.2.j. The DFS afterburner temperature shall be maintained above 2150*° F, over a one-hour rolling average but shall not reach or exceed 2,350*° F.
- V.D.2.k. Carbon monoxide concentration in the afterburner exhaust gas, corrected to 7% oxygen in accordance with the formula specified in Condition V.A.2.e., shall not reach or exceed 100 ppm dry volume over a one-hour rolling average.
- V.D.2.l. The DFS exhaust gas flow rate, or unit production rate (as measured by the V-Cone), shall not exceed 13,210* standard cubic feet per minute, over a one-hour rolling average. V.D.2.m. Oxygen concentration in the exhaust blower exit gas shall be maintained above 3% but shall not reach or exceed 15% oxygen on a dry volume basis.
- V.D.2.n. The Permittee shall control fugitive emissions from the combustion zone of the DFS by maintaining the pressure in the kiln below the pressure of the DFS furnace room.
- V.D.2.o. Quench tower exhaust gas temperature shall not exceed 200*° F.
- V.D.2.p. Exhaust gas pressure drop across the Venturi scrubber shall be maintained at or above 20* inches of water column, over a one-hour rolling average.
- V.D.2.q. Quench brine feed rate to the venturi scrubber shall be above 300* gallons per minute, over a one-hour rolling average and above a minimum pressure of 75* psig.
- V.D.2.r. Clean liquor feed rate to the scrubber tower shall be maintained above 750* gallons per minute, over a one-hour rolling average.
- V.D.2.s. Clean liquor pressure to the scrubber tower shall be maintained above 30* pounds per square inch gauge, over a one-hour rolling average.
- V.D.2.t. The pH of the quench brine shall be maintained above 7.0* over a one-hour rolling average.
- V.D.2.u. Scrubber liquid effluent specific gravity shall not reach or exceed 1.10* specific gravity units, over a twelve-hour rolling average.
- V.D.2.v. The DFS cyclone discharge shall be enclosed within a building, which shall be ventilated to the MDB ventilation system when the DFS is operational or when waste is present within the cyclone discharge building. The DFS cyclone discharge building shall be

operated in accordance with the procedures specified in Attachment 8 (Preparedness and Prevention Plan).

- V.D.2.w. The Permittee may demonstrate that the agent concentration of a sample of the residue generated from the operation of the DFS Cyclone is below 20 ppb for GB or VX, or below 200 ppb for Mustard (H/HD/HT), through analytical testing according to the procedures in Attachment 2 (Waste Analysis Plan). If these analytical results indicate that the agent concentration of the cyclone residue is below these limits, then the residue may be transported off site to an appropriate hazardous waste management facility for treatment, disposal, or both. If such a demonstration is not made, then the DFS cyclone residue shall be placed into permitted storage.

V.D.3. WASTE FEED CUT-OFF REQUIREMENTS

- V.D.3.a. The Permittee shall construct and maintain the systems specified in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables) to automatically cut off the hazardous waste feed to the DFS when the monitored operating conditions deviate from the set point.
- V.D.3.b. In case of a malfunction of the DFS automatic waste feed cut-off systems listed in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables), the Permittee shall immediately manually cut off the waste feed to the DFS and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunctions, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunctions, and specific steps taken to repair the malfunction and avoid similar future malfunctions.
- V.D.3.c. The Permittee shall perform a waste feed cut-off function test no less than once every 14 days. No waste shall be fed to the DFS during the function test. If the DFS is not operational (i.e., shut down), the Permittee shall perform the function test when the DFS becomes operational, prior to waste feed. Idling shall not be considered as "shut down." A copy of each function test shall be placed in the Operating Record.

V.E. COMMON STACK FOR LICs, MPF, & DFS

- V.E.1. The Permittee shall maintain ACAMS and DAAMS continuous exhaust gas monitoring systems for chemical agent emissions on the common stack.
- V.E.2. The exhaust gas monitoring systems specified in Condition V.E.1., shall be calibrated, inspected and operated in accordance with the applicable elements of Conditions V.A.3., V.A.4., and Attachments 3 (Sampling, Analytical, and QA/QC Procedures); 6 (Instrument Calibration Plan and Incinerator Waste Feed Interlock Function Test); 20 (Continuous Emission Monitoring Plan); and 22 (Agent Monitoring Plan).
- V.E.3. Reserved
- V.E.4. Emissions from the common stack shall be monitored for chemical agent as specified in Condition V.E.2. The agent concentration shall not exceed the values specified in Condition V.A.4.g.
- V.E.5. The waste feeds to all incinerators and furnaces shall be automatically cut off when the emission level in the common stack exceeds 0.2 SEL for any chemical agent.

- V.E.6. ACAMS on the common stack shall be comprised of two primary monitors in staggered mode of sampling for continuous monitoring for each agent. A back-up monitor shall be stationed in the stack for contingency purposes, i.e., primary monitor malfunctions or calibration.
- V.E.7. Waste feed to all incinerators and furnaces shall be cut off when the ACAMS are not staggered.
- V.E.8. DAAMS Tubes on the common stack shall be analyzed at a frequency of one tube per four hours of sampling with a corresponding QP sample. A method of DAAMS tube tracking is discussed in Section 22.17.2.1 of Attachment 22 (Agent Monitoring Plan).
- V.E.9. Data from all ACAMS shall be reported on PDARS.
- V.E.10. Data from all DAAMS analyses shall be reported in the Operating Record.
- V.E.11. Confirmed agent alarms shall be orally reported to the Executive Secretary within 24 hours of confirmation.

| Table V.1 LIC Metals Feed Limits | |
|---|---|
| Metals | 24 hour Total^{1,2} (pounds)* |
| Barium (D005) | 0.2 ⁴ |
| Selenium (D010) | 0.4 ⁴ |
| Silver (D011) | 0.2 ⁴ |
| Metal Volatility Group | 12-Hour Rolling Average ³ (Total Pounds per 12 hours) |
| High Volatile Metals (Mercury D009) | 0.0126 |
| Semi-Volatile Metals (Lead (D008) and Cadmium (D006)) | 17.2 ⁴ |
| Low-Volatile Metals (Arsenic (D004), Beryllium, Chromium (D007)) | 10.4 ⁴ |
| Notes: 1. 24-hour Total is measured from 0000 hours to 2400 hours each calendar day. 2. Based on LIC agent GB Trial Burn, mini-burn, or the Metals Demonstration Test. 3. Based on LIC VX ATB 4. Based on LIC HD ATB Plan | |

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| Table V.2 <u>RESERVED</u> | |
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| Table V.2a MPF Non-Embedded Metals Feed Rates For Secondary Waste | | | |
|--|-----------------|-----------|---|
| Metal Volatility Group | Metals | | Pounds per 12 hours, on 12 hour rolling average basis |
| Group 1 (High-Volatile Metals) | Mercury (D009) | | 0.0317* |
| Group 2 (Semi-Volatile Metals) | Lead (D008) | Thallium | 272* |
| | Cadmium (D006) | Tin | |
| | Antimony | Zinc | |
| Group 3 (Low-Volatile Metals) | Arsenic (D004) | Boron | 197 |
| | Chromium (D007) | Cobalt | |
| | Barium (D005) | Copper | |
| | Selenium (D010) | Manganese | |
| | Silver (D0011) | Nickel | |
| | Beryllium | Vanadium | |
| | Aluminum | | |
| 1. Values based on 75 minute Charge Interval. | | | |

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- Deleted: 24-hour Total ^{1,2}¶ (pounds)*
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- Deleted: Barium (D005)
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- Deleted: Selenium (D010)
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- Deleted: Semi-Volatile Metals (Lead (D008) and Cadmium (D006))
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- Deleted: Low-Volatile Metals (Arsenic (D004), Beryllium, Chromium (D007))
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1. Non-embedded metals are metals that may vaporize or become entrained in the combustion gas air during therm[... [33]
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| Table V.3 DFS Non-embedded Metals Feed Limits | |
|---|---|
| Metals | 24-hour Total^{1,2} (pounds)* |
| Barium (D005) | 61 |
| Selenium (D010) | 0.00019 |
| Silver (D011) | 0.000062 |
| Metal Volatility Group | 12-Hour Rolling Average ³ (Total pounds per 12 hours) |
| High Volatile Metals (Mercury D009) | 0.0094 |
| Semi-Volatile Metals (Lead (D008) and Cadmium (D006)) | 174 |
| Low-Volatile Metals (Arsenic (D004), Beryllium, Chromium (D007)) | 5.16 |
| Notes: 1. Non-embedded metals are metals that may vaporize or become entrained in the combustion gas air during thermal treatment. 2. 24-hour Total is measured from 0000 hours to 2400 hours each calendar day. 3. Based on the DFS VX ATB. | |

MODULE VI SHORT-TERM INCINERATION

VI.A. GENERAL CONDITIONS FOR INCINERATORS AND FURNACES

VI.A.1. TRIAL BURN PLANS

VI.A.1.a. Trial Burn Plan Submittal

- VI.A.1.a.i. The Permittee shall submit a trial burn plan for each agent and for each incinerator that will process that agent. The Permittee shall perform a trial burn for each agent to be processed, for each furnace that will process that agent. The Permittee shall submit each trial burn plan a minimum of 180 days prior to the start of the Shakedown Period for the planned trial burn.
- VI.A.1.a.ii. Each individual trial burn plan for each furnace and each remaining agent shall be submitted by the Permittee in accordance with R315-3-4.
- VI.A.1.a.iii. These trial burn plans shall define operating conditions and waste feed rates that will be used to determine incinerator performance in accordance with R315-8-15.4.
- VI.A.1.a.iv. The trial burn plan shall include ramp-up procedures to be implemented during shakedown for the furnace.
- VI.A.1.a.v. The trial burn plan shall include sampling and analytical methods in order to include decontamination solution in the trial burn runs. Proposed feed rates shall be evaluated by the Executive Secretary prior to use during Short-Term Incineration.
- VI.A.1.a.vi. The Executive Secretary shall review and approve all munition lot numbers to be processed during Short-Term Incineration.

~~VI.A.1.a.vii. During the mustard campaign, the DFS is exempt from the requirements of Conditions VI.A.1.a.i. through VI.A.1.a.v., VI.A.3, and VI.D.~~

VI.A.2. SHAKEDOWN

VI.A.2.a. Shakedown Periods

- VI.A.2.a.i. The Permittee may not start the Shakedown Period in the specific furnace system until the Executive Secretary approves the specific agent trial burn plan and monitoring documentation is provided to the Executive Secretary for review to verify the Mustard alarm levels meet or exceed the recoveries of +25% of the true Mustard concentration, statistically, in samples 95% of the time. The alarm level will not exceed 0.5 STEL/VSL. For mustard agent, the common stack and ducts alarm at or below 0.2 SEL.
- VI.A.2.a.ii. The Shakedown Period shall begin with the introduction of each agent in the furnace and shall end with the start of each furnace chemical agent trial burn. There shall be a separate Shakedown Period for each furnace.
- VI.A.2.a.iii. Only non-agent contaminated waste or materials shall be processed during Shakedown

Deleted: (LIC, MPF, and DFS), for VX and Mustard agents.

hours attributed to the Secondary Waste Demonstration Test and during the test runs associated with the demonstration test (i.e., DPE suits/material and carbon canisters).

VI.A.2.a.iv Secondary Waste identified in Table 2-5 of Attachment 2 (Waste Analysis Plan), may be processed during the Shakedown periods for agent that have been successfully demonstrated per Condition VI.C.3.a.i.c.1 at the specified feed rates without further function testing.

VI.A.2.a.v The Permittee shall maintain records that differentiate and document between Shakedown hours attributed to the processing of waste to be demonstrated during the trial burn/ demonstration test and hours attributed to the processing of Secondary Waste per Condition VI.C.3.a.i.c.1.

VI.A.2.b. Duration of the Shakedown Periods

VI.A.2.b.i. Each Shakedown Period shall not exceed 720 hours of agent operation. The Permittee may petition the Executive Secretary for one extension of the Shakedown Period for up to 720 additional hours for each agent test in accordance with R315-8-15.5(c)(1).

VI.A.2.b.ii. Reserved

VI.A.2.b.iii. Reserved

VI.A.2.b.iv. Reserved

VI.A.3. TRIAL BURN

VI.A.3.a. Trial Burn Determinations

VI.A.3.a.i. The Permittee shall determine during the trial burn tests whether or not the following performance standards have been met:

| Performance Standards | Agent Trial Burn |
|--|---|
| Minimum DREs for Applicable POHCs | 99.9999% (LIC, Agent) 99.9999% (MPF, Agent) <u>for heels greater than 5% or 99.99% for Heels equal to or less than 5%.</u> 99.99% (DFS, Agent) 99.99% (DFS, PEP) |
| Particulate Matter Emission Limit | <u>0.013 grains/dscf (29.75 mg/dscm),</u> at 7% O ₂ |
| Mercury (Hg) | 130 µg/dscm at 7% O ₂ |
| Semi-volatile Metals (Pb, Cd) | <u>230</u> µg/dscm at 7% O ₂ |
| Low-volatility Metals (As, Be, Cr) | <u>92</u> µg/dscm at 7% O ₂ |
| Hydrogen Chloride / Chlorine (HCl/Cl ₂) Emission Limit | <u>32</u> ppmv total HCl and Cl ₂ expressed as HCl equivalents <u>at 7% O₂</u> |

Deleted: The Permittee may enter into a second Shakedown Period for evaluation with VX agent in either LIC. This Shakedown Period shall not exceed 720 hours of operation.

Deleted: The Permittee may enter into a second Shakedown Period for evaluation with VX agent in the MPF. This shakedown period shall not exceed 720 hours of operation.

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Deleted: The Permittee may enter into a second Shakedown Period for the evaluation of Polychlorinated Biphenyl (PCB) emissions. This shakedown period shall not exceed 300 hours of operation or until the supplementary testing required by the EPA National Program Chemicals Division is completed.

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The larger of either four lbs/hr or 1% of the HCl in the stack gas prior to entering any pollution control equipment

| Performance Standards | Agent Trial Burn | | |
|--|---|------------------------|--------------------------|
| Toxic Metals Emission Limits | At levels determined by the Executive Secretary to be protective of human health and environment. | | |
| Dioxins/Furans TEQ | 0.4 ng/dscm at 7% O ₂ | | |
| CO Emission Limit, 60-Minute Rolling Average | 100 ppmv at 7% O ₂ | | |
| Chemical Agents Emission Limits | GB | H/HD/HT | VX |
| | 0.0003 mg/m ³ | 0.03 mg/m ³ | 0.0003 mg/m ³ |

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- VI.A.3.a.ii. Emissions from each trial burn shall be measured to quantify total organics.
- VI.A.3.a.iii. The Permittee may use Cr⁶ test data collected during the agent trial burn to quantify the amount of the total chromium that is subject to the Toxic Metals Emission Limits in the table above.
- VI.A.3.b. **Trial Burn Data Submissions and Certifications**
- VI.A.3.b.i. The Permittee shall submit a summary of all stack sampling data collected during the trial burn to the Executive Secretary upon completion of each trial burn run. The Permittee shall submit to the Executive Secretary a trial burn test report within 90 calendar days of completion of each trial burn. All submissions shall be certified in accordance with R315-3-2.2.
- VI.A.3.b.ii. If the preliminary calculations show that the Permittee has failed to meet one or more of the performance standards listed in Condition VI.A.3.a. during the trial burn, the Permittee shall immediately stop waste feed to the incinerator system tested. The Executive Secretary shall be orally notified within 24 hours of this discovery. A written notification and explanation shall be submitted within 15 days of the oral notification. As necessary for protection of workers, the Permittee may propose a revised post-trial burn feed rate for approval to dispose of open munitions/bulk containers and the hazardous waste remaining in the tank systems.
- VI.A.4. MONITORING, INSPECTION, AND RECORDKEEPING REQUIREMENTS**
- VI.A.4.a. **Monitoring Requirements**
- VI.A.4.a.i. The Permittee shall maintain and calibrate the monitoring and recording equipment as specified in Attachments 3 (Sampling, Analytical, and QA/QC Procedures), 6 (Instrument Calibration Plan and Incinerator Waste Feed Interlock Function Test), 19 (Instrumentation and Waste Feed Cut-off Tables), 20 (Continuous Emission Monitoring System Plans), and 22 (Agent Monitoring Plan).
- VI.A.4.a.ii. Monitoring of oxygen (O₂), carbon monoxide (CO), and agent shall be provided at all times during waste feed to a furnace or incinerator. If an interruption in monitoring (CO, O₂ or agent) occurs, feed to that furnace shall be discontinued except as allowed in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables). If the duct is not

monitored by an ACAMS, then the DAAMS tubes shall be analyzed for that time period the ACAMS was off-line. Monitoring shall resume in accordance with Attachment 22 (Agent Monitoring Plan).

- VI.A.4.a.iii. The Permittee shall provide continuous monitoring in the common stack for agents being processed. The continuous monitoring shall consist of two staggered ACAMS monitors for each agent and DAAMS tubes for each agent being processed per Condition VI.A.4.a.xvii. If an interruption in monitoring occurs, feed to all of the furnace systems shall be discontinued.
- VI.A.4.a.iv. The Permittee shall maintain and operate Depot Area Air Monitoring System (DAAMS) tubes and an Automatic Continuous Air Monitoring System (ACAMS) monitor on each furnace exhaust duct and DAAMS tubes and staggered ACAMS monitors on the common stack for each agent being processed. If one of the redundant monitors fails or malfunctions, the Permittee shall replace or repair the monitor within 24 hours. If both monitors fail or malfunction, then feed to the incinerator or furnace shall be stopped.
- VI.A.4.a.v. The oxygen (O₂) and carbon monoxide (CO) monitors specified in Condition VI.A.4.a.ii. shall be initially certified in accordance with R315-50-16 [40 CFR Part 266, Appendix IX]. and 40CFR Part 60, Appendix B, using the most stringent requirements.
- VI.A.4.a.v.a. Certification must be accepted by the Executive Secretary.
- VI.A.4.a.v.a.i. Interim approval of certification or recertification test results may be granted by the Executive Secretary, based upon a review of preliminary data and observations made during the certification testing, to allow operation of the monitor for compliance prior to submission of the final certification report.
- VI.A.4.a.v.b. Certification shall expire at the end of the calendar quarter associated with the certification anniversary.
- VI.A.4.a.v.c. The certification date shall be the first day of certification testing.
- VI.A.4.a.v.d. Any monitor failing certification shall not be used for compliance.
- VI.A.4.a.vi. A certified monitor may only receive minor modifications and still remain certified. A list of minor and major changes and the corrective action is listed V.A.1.h.i.
- VI.A.4.a.vi.a. Written approval from the Executive Secretary shall be required for downgrading from major to minor.
- VI.A.4.a.vii. Major maintenance changes require recalibration of the CEMS in accordance with R315-50-16 [40 CFR Part 266, Appendix IX, Performance Specification Tests], 40CFR Part 60, Appendix B, Condition V.A.1.h. and Attachment 20 (CEMS Monitoring Plan), using the most stringent requirements
- VI.A.4.a.viii. Replacement monitors shall be available for the monitors specified in Conditions VI.A.4.a.ii. through VI.A.4.a.iv. The oxygen (O₂) and carbon monoxide (CO) monitors specified in Condition VI.A.4.a.ii. shall be certified in accordance with Conditions

VI.A.4.a.v. through vii. Replacement ACAMS shall be certified in accordance with Attachment 3 (Sampling, Analytical, and QA/QC Procedures).

- VI.A.4.a.ix. Replacement of the oxygen (O₂) and carbon monoxide (CO) CEMS specified in Condition VI.A.4.a.ii. shall be in accordance with the following:
 - VI.A.4.a.ix.a. The replacement CEMS shall be calibrated in accordance with R315-50-16 [40 CFR Part 266, Appendix IX, 2.1.6.2. for Response Time, and 2.1.6.3 for Calibration Error] immediately after installation.
 - VI.A.4.a.ix.b. The replacement CEMS shall be calibrated when installed and checked daily thereafter for Calibration Drift.
 - VI.A.4.a.ix.c. The replacement CEMS must be calibrated and on line before the calibration of the first monitor has expired. If this cannot be accomplished, feed to the specific furnace system shall be discontinued.
 - VI.A.4.a.ix.d. Both monitors for one location may not be replaced within one 24-hour period without approval from the Executive Secretary.
 - VI.A.4.a.ix.e. Replacement CEMS information shall also be included in the annual report specified in Condition I.AA.
 - VI.A.4.a.x. A report specifying the following information shall be submitted to the Executive Secretary within 14 calendar days of replacement of any monitor specified in Condition VI.A.4.a.ix.e:
 - VI.A.4.a.x.a. The calibration data, raw and Process Data Acquisition and Recording System (PDARS), in accordance R315-50-16 [40 CFR Part 266, Appendix IX];
 - VI.A.4.a.x.b. Failed and replacement monitor serial numbers, type and range of the monitors;
 - VI.A.4.a.x.c. Date and time monitor failed;
 - VI.A.4.a.x.d. Maintenance to be performed; and
 - VI.A.4.a.x.e. The identity of the furnace.
 - VI.A.4.a.xi. A CEMS may be taken off line for calibration and minor maintenance as specified in Condition V.A.1.h. However, when taken off line for major maintenance or modifications, recertification of the monitor will be required as specified in Condition V.A.1.h.
 - VI.A.4.a.xii. Data from the CEMS shall be recorded in the operating record.
 - VI.A.4.a.xiii. Data from all monitors on-line will be reported in the operating record. Worst-case data will be used for reporting requirements.
 - VI.A.4.a.xiv. All monitors shall be connected to the waste feed cut-off.

- VI.A.4.a.xv. Hazardous wastes shall not be fed to a furnace if any waste feed cut-off instrument associated with that furnace listed in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables) fails to operate properly.
- VI.A.4.a.xvi. All monitoring, recording, maintenance, calibration and test data shall be recorded and the records shall be placed in the Operating Record for the specific furnace.
- VI.A.4.a.xvii. ACAMS on the common stack shall be comprised of two primary monitors in staggered mode of sampling for continuous monitoring for agent. A back-up monitor shall be calibrated and stationed in the stack-monitoring house for contingency purposes, i.e., primary monitor malfunctions or calibration.
- VI.A.4.a.xviii. DAAMS tubes on the common stack shall be analyzed at a frequency of one tube per four hours of sampling with a corresponding QP sample for each agent.
- VI.A.4.a.xix. Data from all ACAMS, (specified in Attachment 22, Agent Monitoring Plan) shall be reported on PDARS. Deleted: (except those at the CAL)
- VI.A.4.a.xx. Data from all DAAMS analyses shall be reported in the Operating Record.
- VI.A.4.a.xxi. Confirmed agent alarms shall be orally reported to the Executive Secretary within 24 hours of confirmation.
- VI.A.4.b. Inspection Requirements
- VI.A.4.b.i. The Permittee shall comply with the inspection requirements specified in Condition V.A.3.
- VI.A.4.c. Recordkeeping Requirements
- VI.A.4.c.i. The Permittee shall comply with the recordkeeping requirements as specified in Condition V.A.6.

VI.B. LIQUID INCINERATORS (LICs)

VI.B.1. SHAKEDOWN

VI.B.1.a. Allowable Waste Feed

- VI.B.1.a.i. During the shakedown periods, the Permittee shall limit the hourly feed of hazardous and non-hazardous wastes, decontamination solutions and Munition Demilitarization Building aqueous liquid wastes to the LIC to that specified in the LIC Agent Trial Burn Plan specific to the agent being processed.
- VI.B.1.a.ii. The Permittee shall not feed the following wastes to the LIC during the Shakedown Periods.
- VI.B.1.a.ii.a. Hazardous Wastes F020 through F023, F026, and F027.
- VI.B.1.a.ii.b. Any wastes containing polychlorinated biphenyls.

| | | |
|---------------|--|--|
| VI.B.1.a.iii. | The feed rate of chlorine to each LIC shall not exceed 7356 pounds, over a twelve-hour rolling average during the shakedown period. The Permittee shall specify expected feed rates in each trial burn plan for the shakedown and trial burn periods. | <div>Deleted: 8</div> <div>Deleted: 76</div> <div>Deleted: 84</div> <div>Deleted: 828</div> <div>Deleted: post-trial burn</div> <div>Deleted: s</div> |
| VI.B.1.a.iv. | Decontamination solution with the F999 waste code, and other applicable waste codes, may be fed to the secondary chamber of the LIC during the shakedown period only if the operating conditions specified in Condition VI.B.1.b. are satisfied and the waste feed cut-off limits specified in the trial burn plans are in effect. | |
| VI.B.1.a.v. | Changes to the LICs shall be certified as specified in Condition I.S. | |
| VI.B.1.a.vi. | Throughout the shakedown periods, the Permittee shall conduct waste analysis in accordance with the approved trial burn plan and Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures) for agent and other hazardous waste. | |
| VI.B.1.a.vii. | The Permittee shall determine waste codes for each waste stream as specified in Attachment 2 (Waste Analysis Plan). | |
| VI.B.1.b. | <u>Operating Conditions</u> | |
| VI.B.1.b.i. | During the shakedown periods, the Permittee shall operate the LIC furnace system in accordance with the approved trial burn plans and the following conditions: | |
| VI.B.1.b.i.a. | The Permittee shall monitor emissions from the LIC duct and the common stack for chemical agent as specified in Condition VI.A.4.a. The waste feed to the incinerator shall be automatically cut-off if any of the monitored emission levels exceed the values specified in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables). | |
| VI.B.1.b.i.b. | Primary combustion chamber exhaust gas temperature shall be maintained at or above 2500 ° F, over a one hour rolling average, but shall not exceed 2,850° F. | <div>Deleted: 33</div> |
| VI.B.1.b.i.c. | Secondary combustion chamber exhaust gas temperature shall be maintained at or above 1,800 ° F, over a one-hour rolling average, but shall not exceed 2,200° F. | <div>Deleted: 51</div> |
| VI.B.1.b.i.d. | Carbon monoxide concentration at the exhaust blower exit, corrected to 7% oxygen in accordance with the formula specified in Condition V.A.2.e., shall not exceed 100 parts per million (ppm) dry volume over a one-hour rolling average. | |
| VI.B.1.b.i.e. | The LIC exhaust gas flow rate, or unit production rate (as measured by the V-Cone) shall not exceed 9,500 standard cubic feet per minute, over a one-hour rolling average. | <div>Deleted: 8,613</div> |
| VI.B.1.b.i.f. | Oxygen concentration at the exhaust blower exit shall be maintained at or above 3%, but shall not exceed 15% on a dry volume basis. | |
| VI.B.1.b.i.g. | Reserved | <div>Deleted: The gas flow rate of the LIC system shall be maintained between 10,200 and 15,400 ACFM at the exit of the exhaust blower. This parameter is measured during the Trial Burn Period.</div> |
| VI.B.1.b.i.h. | Atomizing air pressure for the waste burner nozzles, for both chemical agent and decontamination solution shall be maintained at or above the following set points: | <div>Deleted: ¶</div> |

VI.B.1.b.i.h.1. Primary Combustion Chamber, All Feed Rates (1-100%) - 60 psig

VI.B.1.b.i.h.1.a. The Permittee may disable the Automatic Waste Feed Cut-Off associated with Condition VI.B.1.b.i.h.1. when the waste burner nozzle for the primary chamber is removed and agent feed to the LIC is isolated.

VI.B.1.b.i.h.2. Secondary Combustion Chamber, All Feed Rates (1-100%) - 60 psig

VI.B.1.b.i.i. The Permittee shall control fugitive emissions by the seal system design of the LIC combustion chambers.

VI.B.1.b.i.j. Quench tower exhaust gas temperature shall not exceed 225° F.

VI.B.1.b.i.k. Exhaust gas pressure drop across the venturi scrubber shall be maintained above 30 inches of water column, over a one-hour rolling average. Deleted: 5
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VI.B.1.b.i.l. Clean liquor flow rate to the scrubber tower shall be maintained at or above 400 gpm, over a one-hour rolling average. Deleted: 5
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VI.B.1.b.i.m. Clean liquor pressure to the scrubber tower shall be maintained at or above 35 psig, over a one-hour rolling average.

VI.B.1.b.i.n. Quench brine liquid feed rate to the venturi scrubber shall be maintained at or above 100 gpm over a one-hour rolling average. Quench brine delivery pressure shall be maintained at or above 40 psig. Deleted: 6
Deleted: gallons

VI.B.1.b.i.o. The specific gravity of the quench brine effluent shall not exceed 1.20 over a twelve-hour-rolling average. Deleted: 15

VI.B.1.b.i.p. The pH of the quench brine shall be maintained at 7.0 or above, over a one-hour-rolling average. Deleted: 3

VI.B.1.b.i.q. Reserved

VI.B.1.b.i.r. Reserved

VI.B.1.b.i.s. The Permittee shall monitor and control the emissions from the LIC system. The emission levels from each monitoring system shall not exceed the agent concentrations specified in Condition VI.A.3.a.

VI.B.1.b.i.t. During cold start-ups, the individual LIC's primary chamber waste nozzle shall not be installed and the waste feed control valve shall not be opened until the secondary combustion chamber is at 1,550° F or higher as measured by thermocouple 13-TIC-103 (LIC1) or 13-TIC-781 (LIC2).

VI.B.1.b.i.u. If the exterior shell temperature of the slag removal system exceeds 500° F, all waste feed to the LIC system shall be stopped. Shell integrity shall be verified, and recorded in the Operating Record, before wastes are re-introduced into the furnace system.

- VI.B.1.b.i.v. Toxic metals emissions shall be controlled by limiting the agent and agent contaminated waste feed rates to the furnaces. LIC metals feed limits are in Table V.1 in Module V. Metals feed shall be determined using procedures specified in Attachment 2 (Waste Analysis Plan).
- VI.B.1.c. Waste Feed Cut-Off Requirements
- VI.B.1.c.i. The Permittee shall identify the waste feed cut-off instruments in each individual trial burn plan. The Permittee shall identify the instrument number, the operating parameter, and the set point. When the waste feed cut-off tables for LIC1 and LIC2 are approved as part of the revised trial burn plans, the waste feed cut-off TAG identification numbers and associated set points shall be incorporated into Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).
- VI.B.1.c.ii. In the event of a malfunction of a LIC automatic waste feed cut-off instrument identified in the approved trial burn plan, the Permittee shall immediately manually cut off the waste feed to the LIC and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunction, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunction, and specific steps taken to repair the malfunction and avoid similar future malfunctions.
- VI.B.1.c.iii. All waste feed cut-off instruments shall be maintained and tested in accordance with Condition V.A.4.
- VI.B.1.d. Monitoring Requirements
- VI.B.1.d.i. The Permittee shall maintain and calibrate the monitoring and recording equipment as specified in Condition VI.A.4.a and V.A.1.h.i.
- VI.B.2. TRIAL BURN PERIOD**
- VI.B.2.a. The Permittee shall operate and monitor the incinerator during the trial burn period as specified in each of the trial burn plans approved by the Executive Secretary. Each trial burn plan shall include procedures to insure that the data critical for conducting a risk assessment (e.g. dioxins/furans, metals, agent, etc.) meets the standards in the quality control plan accompanying the trial burn plan.
- VI.B.2.b. Trial Burn Determinations
- VI.B.2.b.i. The Permittee shall make the performance determinations specified in Condition VI.A.3.a. during the trial burn tests.
- VI.B.2.c. Monitoring Requirements
- VI.B.2.c.i. All continuous emission monitoring will follow the requirements as specified in Condition VI.A.4.a and V.A.1.h.i.
- VI.B.3. POST-TRIAL BURN PERIOD**

VI.B.3.a. During the post trial burn periods in accordance with R315-8-15.5(c)(3) and for the minimum period sufficient for the Permittee to analyze samples, compute data, and submit trial burn results, and for the Executive Secretary to review the trial burn results and make any modifications necessary to the permit, the Permittee shall comply with the following conditions:

VI.B.3.a.i. Limitation on Waste Feed

VI.B.3.a.i.a. After successful completion of an agent trial burn, the Permittee may feed permitted hazardous waste to the LIC up to 50% of the feed rate demonstrated during the trial burn. The Permittee may feed up to 75% of the demonstrated feed rate after approval of preliminary results by the Executive Secretary for the metals train, dioxin train, particulate/acid gas train(s), and Mustard DAAMS, including a preliminary DRE calculation. ▼

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Deleted: Full feed rates may be incorporated into Module V after the final report has been reviewed and approved by the Executive Secretary.

VI.B.3.a.i.b. Only one type of chemical agent shall be burned in the LIC System at any given time.

VI.B.3.a.i.c. Decontamination solution may be fed to the secondary chamber of the LIC during the agent post trial burn period only if the operating conditions specified in Condition VI.B.3.a.ii. are satisfied and the waste feed cut-off limits specified in the trial burn plans are in effect.

VI.B.3.a.i.d. The Permittee shall not incinerate the miscellaneous agent contaminated liquid wastes in the LIC secondary combustion chamber except as allowed in Attachment 2 (Waste Analysis Plan).

VI.B.3.a.i.e. The feed rate of chlorine to each LIC shall be in accordance with VI.B.3.a.i.a. ▼

Deleted: not exceed 828 total pounds per twelve hours, over a twelve-hour rolling average during the post-trial burn periods.¶

VI.B.3.a.i.f. Throughout the post-trial burn periods, the Permittee shall conduct analysis of the waste to be treated in the LICs to verify that the waste feed is within the physical and chemical composition limits specified in Module V and Attachment 2 (Waste Analysis Plan). The procedure shall follow the waste analysis requirements in the trial burn plan and Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures) for agent and other hazardous waste.

VI.B.3.a.i.g. The Permittee may feed hazardous waste up to 100 percent of the agent trial burn demonstrated feed rate provided;

VI.B.3.a.i.g.1 The Executive Secretary has previously approved the preliminary data referenced in Condition VI.B.3.a.i.a;

VI.B.3.a.i.g.2 The Permittee has submitted the Notification of Compliance required by Title 40 of the Code of Federal Regulations, Part 63, Subpart EEE to the Utah Division of Air Quality;

VI.B.3.a.i.g.3 The Permittee has submitted revised Conditions V.B.1.a, V.B.1.d, V.B.2, Table V.1. and revised Attachment 19 Tables D-5-2 and D-5-2B (Automatic Waste Feed Cut-off tables for LICs 1 and 2 respectively) that incorporate operating parameter limits;

VI.B.3.a.i.g.4 The Permittee has submitted the trial burn report and the Executive Secretary has reviewed the Executive Summary included in the report.

VI.B.3.a.i.g.5 The Permittee shall comply with the requirements of Conditions V.A and V.B when the requirements of Conditions VI.B.3.i.b.g.2 through VI.B.3.a.i.g.4 have been fulfilled.

VI.B.3.a.ii. Operating Conditions

VI.B.3.a.ii.a. The Permittee shall not treat any hazardous waste in the LIC during the post-trial burn period unless the system is operating in compliance with Condition VI.B.1.b., excluding the feed rates in Conditions VI.B.1.b.i.v.

VI.B.3.a.iii. Waste Feed Cut-Off Requirements

VI.B.3.a.iii.a. The Permittee shall comply with the waste feed cut-off instrument settings specified in the Attachment 19 (Instrumentation and Waste Feed Cut-Off Tables).

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VI.B.3.a.iii.b. In the event of a malfunction of a LIC automatic waste feed cut-off instrument as specified in the approved trial burn plan, the Permittee shall immediately manually cut off the waste feed to the LIC and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunctions, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunctions, and specific steps taken to repair the malfunction and avoid similar future malfunctions.

VI.B.3.a.iii.c. All instrumentation shall be maintained and tested in accordance with Condition V.A.4.

VI.B.3.a.iv. Monitoring Requirements

VI.B.3.a.iv.a. The Permittee shall maintain and calibrate the monitoring and recording equipment as specified in Condition VI.A.4.a. and V.A.1.h.i.

VI.C. METAL PARTS FURNACE

VI.C.1. SHAKEDOWN

VI.C.1.a. Allowable Waste Feed

VI.C.1.a.i. During the shakedown periods, the Permittee shall limit the hourly feed of hazardous and non-hazardous waste test materials to the MPF to that specified in the MPF Agent Trial Burn Plan or Demonstration Test Plan specific to the agent being processed.

VI.C.1.a.ii. The Permittee shall not feed the following wastes to the MPF during the Shakedown Period.

VI.C.1.a.ii.a. Hazardous Wastes F020 through F023, F026, and F027.

VI.C.1.a.ii.b. Any wastes containing polychlorinated biphenyls.

VI.C.1.a.ii.c. Mustard ton containers, indicating a liquid mercury sample result of one part per million or greater.

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Deleted: When an agent-filled munition cannot be automatically or manually drained below a 5% by weight heel, the Permittee shall comply with the operating conditions of VI.C.1.b.i.t.

VI.C.1.a.iii. The feed rate of total halogens to the MPF shall not exceed 1820 total pounds over a 12-hour rolling average during the shakedown periods.

VI.C.1.a.iv. The hourly feed rate of the residual chemical agent contained in the MPF feed shall not exceed the limits provided in the approved trial burn plan.

VI.C.1.a.v. Reserved

VI.C.1.a.vi. Changes to the MPF shall be certified as specified in Condition I.S.

VI.C.1.a.vii. Throughout the shakedown periods, the Permittee shall conduct waste analysis in accordance with the approved trial burn plan and Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures) for agent and other hazardous waste.

VI.C.1.a.viii. The Permittee shall determine waste codes for each waste stream as specified in Attachment 2 (Waste Analysis Plan).

VI.C.1.a.iv. The Permittee shall collect brine samples at a regular interval to evaluate metals concentrations in the mustard baseline ton containers.

VI.C.1.b. Operating Conditions

VI.C.1.b.i. During the shakedown periods, the Permittee shall operate the MPF furnace system in accordance with the approved trial burn plans or demonstration test plans and the following conditions:

VI.C.1.b.i.a. The Permittee shall monitor emissions from the MPF duct and the common stack for chemical agent as specified in Condition VI.A.4.a. The waste feed to the incinerator shall be automatically cut off if any of the monitored emission levels exceed the values specified in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).

VI.C.1.b.i.b. Only one loaded tray containing the waste materials shall be fed into the MPF at any given time, with a minimum 20-minute interval between each tray feed.

VI.C.1.b.i.c. The number of munitions units fed to the MPF per batch feed shall not exceed the limit specified in the approved trial burn plan.

VI.C.1.b.i.d. The temperature of all three zones of the primary chamber shall be maintained at or above 1300° F, but shall not exceed 1,800° F.

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VI.C.1.b.i.e. The MPF secondary combustion chamber temperature shall be maintained at or above 1900° F, over a one –hour rolling average, but shall not exceed 2,175° F.

VI.C.1.b.i.f. Carbon monoxide concentration at the exhaust blower exit, corrected to 7% oxygen in accordance with the formula specified in Condition V.A.2.e., shall not exceed 100 ppm dry volume over a one-hour rolling average.

- VI.C.1.b.i.g. MPF exhaust gas flow rate, or unit production rate (as measured by the V-cone), shall not exceed 9,500 standard cubic feet per minute, over a one-hour rolling average.
- VI.C.1.b.i.h. Reserved
- VI.C.1.b.i.i. Oxygen concentration at the exhaust blower exit shall be maintained at or above 3%, but shall not exceed 15% on a dry volume basis.
- VI.C.1.b.i.j. The Permittee shall control fugitive emissions from the combustion zone of the MPF by maintaining the pressure in the primary chamber below the pressure of the MPF furnace room.
- VI.C.1.b.i.k. Quench tower exhaust gas temperature shall not exceed 225° F.
- VI.C.1.b.i.l. Exhaust gas pressure drop across the venturi scrubber shall be maintained above 20* inches of water column, over a one-hour rolling average.
- VI.C.1.b.i.m. Clean liquor flow rate to the scrubber tower shall be maintained at or above 400* gpm, over a one-hour rolling average.
- VI.C.1.b.i.n. Clean liquor pressure to the scrubber tower shall be maintained at or above 35 psig.
- VI.C.1.b.i.o. Quench brine feed rate to the venturi scrubber shall be maintained at or above 85 gallons per minute, over a one-hour rolling average.
- VI.C.1.b.i.p. The pH of the scrubber liquid effluent shall be maintained at 7.0 or above, over a one-hour rolling average.
- VI.C.1.b.i.q. The specific gravity of the scrubber brine shall not exceed 1.20 specific gravity units over a twelve-hour rolling average.
- VI.C.1.b.i.r. Toxic metals emissions shall be controlled by limiting the agent and agent contaminated waste feed rates to the furnaces. MPF non-embedded metals feed limits are in Table V.C.1., V.2 and V.2a in Module V. Non-embedded metals feed shall be determined using procedures specified in Attachment 2 (Waste Analysis Plan).
- VI.C.1.b.i.s. The Permittee shall monitor and control the emissions from the MPF system. The emission levels from each monitoring system shall not exceed the Chemical Agents Emission Limits specified in Condition VI.A.3.a.
- VI.C.1.b.i.t. Reserved
- VI.C.1.b.i.u. Reserved
- VI.C.1.b.i.v. The Permittee shall comply with Conditions V.C. for processing munitions, bulk containers and secondary wastes in the Discharge Airlock utilizing either high temperature or low temperature monitoring. Low Temperature monitoring will be required if the specified upset conditions in V.C.2.r. are exceeded. The Permittee shall

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Deleted: The gas flow rate of the MPF shall be maintained between 6,000 and 15,000 ACFM at the exit of the exhaust blower. This parameter is measured during the Trial Burn Period.

Deleted: Bulk items with heels in excess of 5% by weight shall not be processed unless a procedure protective of human health and the environment has been incorporated into this Permit in accordance with procedures specified in R315-3-4.

Deleted: Except when processing VX Hydrolysate (VXH) five gallon containers, the LIC and DFS incinerators shall not burn chemical agent or decontamination solutions whenever munitions or bulk items that have a heel in excess of 5 % by weight are being treated in the MPF.

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Deleted: Spray Tanks and mine drums shall be processed using low temperature monitoring until a monitoring plan, specific to Spray Tanks and mine drums has been approved by the Executive Secretary.

perform low-temperature monitoring in the MPF Discharge Airlock for all secondary waste.

VI.C.1.c. Waste Feed Cut-Off Requirements

VI.C.1.c.i. The Permittee shall identify the waste feed cut-off instruments in each individual trial burn plan. The Permittee shall identify the instrument number, the operating parameter, and the set point. When the waste feed cut-off tables for the MPF are approved as part of the revised trial burn plans, the waste feed cut-off TAG identification numbers and associated set points shall be incorporated into Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).

VI.C.1.c.ii. In the event of a malfunction of a MPF automatic waste feed cut-off instrument identified in the approved trial burn plan, the Permittee shall immediately manually cut off the waste feed to the MPF and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunction, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunction, and specific steps taken to repair the malfunction and avoid similar future malfunctions.

VI.C.1.c.iii. All instrumentation shall be maintained and tested in accordance with Condition V.A.4.

VI.C.1.d. Monitoring Requirements

VI.C.1.d.i. The Permittee shall maintain and calibrate the monitoring and recording equipment as specified in Condition VI.A.4.a and V.A.1.h.i.

VI.C.1.d.ii. MPF Discharge Airlock Monitoring will comply with V.C.1., VI.B.1.b.i.v., and Attachment 22 (Agent Monitoring Plan).

VI.C.2. TRIAL BURN PERIOD

VI.C.2.a. The Permittee shall operate and monitor the incinerator during the trial burn period as specified in each of the trial burn plans approved by the Executive Secretary. Each trial burn plan shall include procedures to insure that the data critical for conducting a risk assessment (e.g. dioxins/furans, metals, agent, etc.) meets the standards in the quality control plan accompanying the trial burn plan.

VI.C.2.b. Trial Burn Determinations

VI.C.2.b.i. The Permittee shall make the performance determinations specified in Condition VI.A.3.a. during the trial burn tests.

VI.C.2.c. Monitoring Requirements

VI.C.2.c.i. All continuous emission monitoring will follow the requirements as specified in Condition VI.A.4.a and V.A.1.h.i.

VI.C.3. POST-TRIAL BURN PERIOD

VI.C.3.a. During the post-trial burn periods, in accordance with R315-8-15.5(c)(3), and for the minimum period sufficient for the Permittee to analyze samples, compute data, and submit trial burn results, and for the Executive Secretary to review the trial burn results and make any modifications necessary to the permit, the Permittee shall comply with the following conditions:

VI.C.3.a.i. Limitation on Waste Feed

VI.C.3.a.i.a. After successful completion of an agent trial burn, the Permittee may feed approved hazardous waste to MPF up to 50% of the feed rates demonstrated in the trial burn. The Permittee may feed up to 75% of the demonstrated feed rate after approval of preliminary results by the Executive Secretary for the metals train, dioxin train, particulate/acid gas train(s), and Mustard DAAMS results, including a preliminary DRE calculation.

Deleted: Except as indicated below for Ton Containers, Spray Tanks, VXH five-gallon containers, and VX Test Cylinders (VTCs) after successful completion of an agent trial burn, the Permittee may feed approved hazardous waste to the MPF up to 50% of the feed rates demonstrated in the trial burn.

VI.C.3.a.i.a.1 For ton containers the Permittee shall comply with the feed rate limitations by adjusting the charge weights and charge intervals such that the equivalent feed rate, on a pounds per hour basis, does not exceed the applicable percentage of the trial burn demonstrated rate. The post trial burn feed rates shall be calculated as follows:

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$$\text{Post ATB feed rate} = (\text{Charge } Wt_{\text{atb}} * \text{Charge Int}_{\text{atb}}) * \text{Pct} = \text{Charge } Wt_{\text{post atb}} * \text{Charge Int}_{\text{postatb}}$$

Where:

Pct = Applicable post trial burn feed rate (i.e., 0.5 or 0.75)

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Charge Wt_{atb} = Charge Weight demonstrated during the Agent Trial Burn (pounds /charge).

Charge Int_{atb} = Charge interval demonstrated during the Agent Trial Burn (Charge/hour)

Charge Wt_{postatb} = Post ATB charge weight (pounds/charge); charge weight shall not exceed maximum weight demonstrated during Agent Trial Burn.

Charge $Int_{\text{posts-atb}}$ = Post ATB charge interval (charge/hour); charge time shall be the greater of the result calculated from the equation above or the minimum charge time of 104 minutes (97 minutes for Zone 1 timer plus 7 minutes for zone to zone tray transition time.)

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VI.C.3.a.i.a.1.i. For each desired charge weight and charge interval set that includes a charge interval that is greater than the charge interval demonstrated during the trial burn (i.e., the charge time is less than the charge time demonstrated during the trial burn), the Permittee shall at a minimum collect a treatment residue sample from each of the first three ton containers processed. The samples shall be analyzed to ensure the mustard content in the residue is below the Waste Control Limit specified in Attachment 2 for the agent being processed.

VI.C.3.a.i.a.2. As an alternative to the “charge interval versus charge weight” feed rate compliance strategy discussed in Condition VI.C.3.a.i.a.1, a “charge interval versus primary chamber temperature response” feed rate compliance strategy may be used, provided:

VI.C.3.a.i.a.2.(i) The Permittee submits to the Executive Secretary a revised Condition VI.C.3.a.i with sufficient justification, and

VI.C.3.a.i.a.2.(ii). The Executive Secretary approves the alternate MPF Mustard ton container feed

rate compliance strategy proposed by the Permittee.

VI.C.3.a.i.a. 4. The Permittee may feed hazardous waste up to 100 percent of the agent trial burn demonstrated feed rate provided;

VI.C.3.a.i.a.4.i. The Executive Secretary has previously reviewed the preliminary data referenced in Condition VI.C.3.a.i.a;

VI.C.3.a.i.a.4.ii. The Permittee has submitted the Notification of Compliance required by Title 40 of the Code of Federal Regulations, Part 63, Subpart EEE to the Utah Division of Air Quality;

VI.C.3.a.i.a.4.iii. The Permittee has submitted revised Conditions V.C.1.a, V.C.1.d, V.C.2, Table V.2, and revised Attachment 19 Tables D-6-2 (Automatic Waste Feed Cut-Off Table for MPF) that incorporate operating parameter limits (i.e., AWFCO limits) identical to those specified in the Notification of Compliance for the regulated operating parameters that are common to both this Permit and the Deseret Chemical Depot Clean Air Act Title V Permit;

VI.C.3.a.i.a.4.iv. The Permittee has submitted the trial burn report and the Executive Secretary has reviewed the Executive Summary included in the report.

VI.C.3.a.i.a. 4.v. The Permittee shall comply with the requirements of Conditions V.A. and V.C when the requirements of Conditions VI.C.3.a.i.a.4 .i through VI.C.3.a.i.a.4.iv have been fulfilled.

VI.C.3.a.i.a. 4.vi. Only one type of chemical agent contained in munitions or bulk containers shall be feed into the MPF, at any given time. Secondary waste generated during different agent campaigns may be fed on the same tray provided a DRE for the agent contaminating the wastes has been demonstrated to comply with the performance standards specified in Conditions VI.A.3.a.i and the MPF exhaust ducts, DAL and common stack are configured to monitor the agents contaminating the wastes.

VI.C.3.a.i.b. After successful completion of the Secondary Waste Demonstration Test, the Permittee may feed waste at 50% feed rate listed in Table V.C.1. For each new waste stream, an inspection and loading criterion shall be developed by the Permittee and approved by the Executive Secretary for WICs/containers containing potentially agent-contaminated secondary wastes that are combustible, fibrous or porous (e.g., wood, paper, cardboard, cloth, etc.) before these wastes are treated in the MPF and the following is met:

VI.C.3.a.i.b.1 The Permittee shall configure each Secondary Waste load and inspection of each treated load in accordance with waste load configurations and inspection criteria approved by the Executive Secretary. The Permittee shall comply with this requirement by adhering to waste load configurations/inspection criterion developed through function tests that are performed to determine the optimum weight and load configuration for specific combinations of secondary wastes fed on the same burn tray and to determine if the waste is processed effectively.

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VI.C.3.a.i.a.1 For ton containers only, the Permittee may comply with the 50% feed rate limitation by either doubling the charge interval and not exceeding the agent heel weight demonstrated during the trial burn, or by draining the ton containers to less than half of the demonstrated agent feed weight and not decreasing the charge frequency demonstrated in the trial burn. The Permittee may feed up to 75% of the demonstrated feed rate after approval of preliminary results by the Executive Secretary for the metals train, dioxin train, particulate/acid gas train(s), and VX DAAMS results, including a preliminary DRE calculation.¶

¶ VI.C.3.a.i.a.2 For spray tanks only, after successful completion of the VX Spray Tank Demonstration Test, the Permittee may feed Spray Tanks to the MPF up to 50% of the feed rates demonstrated during the test. The Permittee shall comply with the 50% feed rate limitation by maintaining the charge interval demonstrated during the demonstration test and limiting the number of Spray Tanks in the MPF at any time to one, except for times when a Spray Tank is returned from the Discharge Airlock to the MPF. The Permittee may feed Spray Tanks to the MPF at the agent heel and charge interval demonstrated during the demonstration test after approval by the Executive Secretary of the MPF VX Agent Trial Burn preliminary resu... [1]

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- VI.C.3.a.i.b.2 A function test shall be performed for each waste load configuration containing combustible waste that differs from those previously tested because of either increased weight or types of wastes placed on the burn tray.
- VI.C.3.a.i.b.3 The Permittee shall provide notice to the Executive Secretary a minimum of seven days in advance of conducting a function test. Following each function test, and prior to implementation of resultant waste load configurations, DSHW shall provide written approval that such waste load configurations may be utilized.
- VI.C.3.a.i.c. Upon approval by the Executive Secretary of preliminary results for the metals, dioxin/furans, and particulate/acid train(s), the Permittee may feed secondary waste at 75% of the feed rate demonstrated during the Secondary Waste Demonstration Test for the limiting parameters of halogens, ash, non-embedded metals, BTUs and carbon filter cartridges. The Permittee shall include in the preliminary data submission a revised 75% secondary waste feed rate table based on test results.
- VI.C.3.a.i.c.1 Non-munition agent contaminated debris, Agent Collection System residues, Quantification System maintenance residues, MDB process equipment, MDB HEPA filters, MDB carbon filter trays, munitions overpack containers, discarded tools and the non-munition wastes listed in Table 2-5 in Attachment 2 (Waste Analysis Plan) may be processed in the MPF after the associated agent trial burn period. Further function testing for the non-munition waste is not required provided the following feed limits are not exceeded:

| WASTE DESCRIPTION | MAXIMUM FEED RATES | | |
|---|--------------------|------------------|-------------------------------------|
| | POUNDS PER HOUR | CHARGES PER HOUR | MAX. POUNDS PER CHARGE ¹ |
| Hazardous waste as identified in Attachment 2 (Waste Analysis Plan), Table 2-5 | 290 | 3 | 100 |
| <p>1. The charge weight limit and feed rate limit do not apply to overpack/overpack-sections, or to steel objects, provided they are 1) fully disassembled, 2) have no obstructed crevices or volumes that may entrap residual agent and 3) are fed individually to the MPF. Overpacks and steel objects discussed above that weigh more than the above charge weight limit will be dismantled to the extent possible before feeding to the MPF. Agent feed rate limits will be maintained as listed in V.C.1.a.i. if any liquid agent is present in an overpack.</p> <p>2. The MPF Discharge Airlock shall be cooled to less than 600° F prior to agent monitoring</p> | | | |

- VI.C.3.a.i.d. All non-munition wastes that envelop an interior space (e.g. gauges, cans, escape air tanks, overpacks, glassware, etc.) must be opened or punctured before being placed in the MPF.
- VI.C.3.a.i.e. The combustible wastes identified in VI.C.3.a.i.c. shall not be inside the MPF at the same time the wastes identified in VI.C.3.a.i.a. are in this incinerator.
- VI.C.3.a.i.f. The feed rate of halogens to the MPF shall be in accordance with Condition VI.C.3.a.i.a.
- VI.C.3.a.i.g. The feed rate of ash to the MPF shall be in accordance with Condition VI.C.3.a.i.b.

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VI.C.3.a.i.h Throughout the post-trial burn periods, the Permittee shall conduct analysis of the waste to be treated in the MPF to verify that the waste feed is within the physical and chemical composition limits specified in Module V and Attachment 2 (Waste Analysis Plan). The procedure shall follow the waste analysis requirements in the trial burn plan and Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures) for agent and other hazardous waste.

VI.C.3.a.i.i. ~~Reserved.~~

Deleted: The Permittee shall not process any munitions containing a greater than 5% heel of mustard or VX agents unless it has demonstrated, through an approved agent trial burn, that it can do so in compliance with the Performance Standards in Condition VI.A.3. For VTCs only, the VX contents shall not exceed 50% of the agent heel weight demonstrated during the MPF VX agent trial burn

VI.C.3.a.i.j In accordance with an approved trial burn plan; the Permittee shall demonstrate compliance with the Performance Standards in Condition V.A.2. for the highest rate at which it will feed waste to the MPF.

VI.C.3.a.ii. Operating Conditions

VI.C.3.a.ii.a. The Permittee shall not treat any hazardous waste in the MPF during the post-trial burn period unless the MPF system is operating in compliance with Condition VI.C.1.b. excluding the feed rates in Conditions VI.C.1.b.i.c. and VI.C.1.b.i.r.

VI.C.3.a.iii. Waste Feed Cut-Off Requirements

VI.C.3.a.iii.a. The Permittee shall comply with the waste feed cut-off instrument settings specified in Attachment 19 (Instrumentation and Waste Feed Cut-Off Tables).

Deleted: the approved trial burn plan.

VI.C.3.a.iii.b. In the event of a malfunction of a MPF automatic waste feed cut-off instrument as specified in the approved trial burn plan, the Permittee shall immediately manually cut off the waste feed to the MPF and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunctions, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunctions, and specific steps taken to repair the malfunction and avoid similar future malfunctions.

VI.C.3.a.iii.c. All instrumentation shall be maintained and tested in accordance with Condition V.A.4.

VI.C.3.a.iv. Monitoring Requirements

VI.C.3.a.iv.a. The Permittee shall maintain and calibrate the monitoring and recording equipment as specified in Condition VI.A.4.a and V.A.1.h.i.

VI.D. DEACTIVATION FURNACE SYSTEM (DFS)

VI.D.1. SHAKEDOWN

VI.D.1.a. Allowable Waste Feed

VI.D.1.a.i. During the Shakedown Periods, the Permittee shall limit the hourly feed of agent and ECR maintenance residue to the DFS to that specified in the DFS Agent Trial Burn Plan specific to the agent being processed.

- VI.D.1.a.ii. The Permittee shall not feed the following wastes to the DFS, during the Shakedown Period:
- VI.D.1.a.ii.a. Hazardous Wastes F020 through F023, F026, and F027.
- VI.D.1.a.iii. The feed rate of chlorine to DFS shall not exceed 8.4 pounds total in a twelve hour rolling average period during the agent shakedown periods.
- VI.D.1.a.iv. The hourly feed rate of the residual chemical agent contained in the DFS feed, which was calculated using a 5% agent heel, shall not exceed the limits provided in the approved trial burn plan.
- VI.D.1.a.v. Changes to the DFS shall be certified as specified in Condition I.S.
- VI.D.1.a.vi. Throughout each Shakedown Period, the Permittee shall conduct waste analysis in accordance with the approved trial burn plan and Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures) for agent and other hazardous waste.
- VI.D.1.a.vii. The Permittee shall determine waste codes for each waste stream as specified in Attachment 2 (Waste Analysis Plan).
- VI.D.1.b. Operating Conditions
- VI.D.1.b.i. During the shakedown periods, the Permittee shall operate the DFS furnace system in accordance with the approved trial burn plan and the following conditions:
- VI.D.1.b.i.a. The Permittee shall monitor emissions from the DFS duct and the common stack for chemical agent as specified in Condition VI.A.4.a. The waste feed to the incinerator shall be automatically cut off if any of the monitored emission levels exceed the values specified in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).
- VI.D.1.b.i.b. The number of munitions units fed to the DFS in one hour shall not exceed the limit specified in Condition V.D.1.a.
- VI.D.1.b.i.c. The temperature of the unquenched DFS rotary kiln exhaust gas shall be maintained at or above 954° F, over a one-hour rolling average
- VI.D.1.b.i.d. The temperature of heated discharge conveyor shall be maintained at or above 1,000° F.
- VI.D.1.b.i.e. The DFS secondary combustion chamber temperature shall be maintained at or above 2065° F, over a one-hour rolling average, but shall not exceed 2,400° F.
- VI.D.1.b.i.f. The rate of movement of the heated discharge conveyor shall be controlled so as to provide a minimum solid retention time of 15 minutes inside the heated enclosure.
- VI.D.1.b.i.g. The rotational speed of the retort shall be maintained within the following parameters:
- VI.D.1.b.i.g.1. The speed shall not exceed two revolutions per minute (rpm);

- VI.D.1.b.i.g.2. Except when in oscillation mode, the speed shall not drop below 0.33 rpm;
- VI.D.1.b.i.g.3. Hazardous waste may not be fed to the DFS while the retort is in oscillation mode except as provided in Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).
- VI.D.1.b.i.h. Carbon monoxide concentration at the exhaust blower exit, corrected to 7% oxygen in accordance with the formula specified in Condition V.A.2.e., shall not exceed 100 ppm dry volume over a one-hour rolling average.
- VI.D.1.b.i.i. DFS exhaust gas flow rate, or unit production rate (as measured by the V-Cone), shall not exceed 13,210 standard cubic feet per minute, over a one-hour rolling average.
- VI.D.1.b.i.j. The gas flow of the DFS shall be maintained between 22,000 and 40,000 ACFM at the exit of the exhaust blower. This parameter is measured during the Trial Burn Period.
- VI.D.1.b.i.k. Oxygen concentration at the exhaust blower exit shall be maintained at or above 3%, but shall not exceed 15% on a dry volume basis.
- VI.D.1.b.i.l. The Permittee shall control fugitive emissions from the combustion zone of the DFS by maintaining the pressure in the kiln below the pressure of the DFS furnace room.
- VI.D.1.b.i.m. Quench tower exhaust gas temperature shall not exceed 225° F.
- VI.D.1.b.i.n. Exhaust gas pressure drop across the venturi scrubber shall be maintained above 30* inches of water column, over a one-hour rolling average.
- VI.D.1.b.i.o. Quench brine feed rate to the venturi shall be at or above 310 gpm, over a one-hour rolling average. with a liquid delivery pressure at or above 40 psig.
- VI.D.1.b.i.p. Clean liquor feed rate to the scrubber tower shall be maintained at or above 800 gpm, over a one-hour rolling average.
- VI.D.1.b.i.q. Clean liquor pressure to the scrubber tower shall be maintained at or above 35 psig, over a one-hour rolling average.
- VI.D.1.b.i.r. The pH of the quench brine shall be maintained at 8.7 or above, over a one-hour rolling average.
- VI.D.1.b.i.s. Quench brine effluent specific gravity shall not exceed 1.10 specific gravity units, over a twelve-hour rolling average.
- VI.D.1.b.i.t. The Permittee shall continuously monitor and control the emissions from the DFS system. The emission levels from each monitoring system shall not exceed the Chemical Agents Emission Limits specified in Condition VI.A.3.a.
- VI.D.1.b.i.u. The temperature of the quenched DFS rotary kiln exhaust gas, shall not exceed 1,650° F.
- VI.D.1.b.i.v. Reserved

- VI.D.1.b.i.w. Toxic metals emissions shall be controlled by limiting the agent and agent contaminated waste feed rates to the furnaces. DFS non-embedded metals feed limits are in Table V.3 in Module V. Non-embedded metals feed shall be determined using procedures specified Attachment 2 (Waste Analysis Plan).
- VI.D.1.c. Waste Feed Cut-Off Requirements
- VI.D.1.c.i. The Permittee shall identify the waste feed cut-off instruments in each individual trial burn plan. The Permittee shall identify the instrument number, the operating parameter, and the set point. When the waste feed cut-off tables for the DFS are approved as part of the revised trial burn plans, the waste feed cut-off TAG identification numbers and associated set points shall be incorporated into Attachment 19 (Instrumentation and Waste Feed Cut-off Tables).
- VI.D.1.c.ii. In the event of a malfunction of a DFS automatic waste feed cut-off instrument identified in the approved trial burn plan, the Permittee shall immediately manually cut off the waste feed to the DFS and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunction, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunction, and specific steps taken to repair the malfunction and avoid similar future malfunctions.
- VI.D.1.c.iii. All instrumentation shall be maintained and tested in accordance with Condition V.A.4.
- VI.D.1.d. Monitoring Requirements
- VI.D.1.d.i. The Permittee shall maintain and calibrate the monitoring and recording equipment as specified in Condition VI.A.4.a and V.A.1.h.i.
- VI.D.1.e. Inspection Requirements
- VI.D.1.e.i. The Permittee shall comply with the Inspection Requirements specified in Condition V.A.3.
- VI.D.1.f. Recordkeeping
- VI.D.1.f.i. The Permittee shall comply with the recordkeeping requirements as specified in Condition V.A.6.
- VI.D.1.f.ii. Every time ECR residues are fed to the DFS the following information shall be recorded and kept on file in accordance with R315-8-5.3:
- VI.D.1.f.ii.a. The exact weight of the waste.
- VI.D.1.f.ii.b. The location of the waste feed, identified as Line A or Line B chute.
- VI.D.1.f.ii.c. A brief description of the waste.
- VI.D.1.f.ii.d. The date and time the waste was fed to the DFS.

VI.D.2. TRIAL BURN PERIOD

VI.D.2.a. The Permittee shall operate and monitor the incinerator during the trial burn period as specified in each of the trial burn plans approved by the Executive Secretary. Each trial burn plan shall include procedures to insure that the data critical for conducting a risk assessment (e.g. dioxins/furans, metals, agent, etc.) meet the standards in the quality control plan accompanying the trial burn plan.

VI.D.2.b. Trial Burn Determinations

VI.D.2.b.i. The Permittee shall make the performance determinations specified in Condition VI.A.3.a. during the trial burn tests.

VI.D.2.c. Monitoring Requirements

VI.D.2.c.i. All emission monitoring will follow the requirements as specified in Condition VI.A.4.a and V.A.1.h.i.

VI.D.3. POST-TRIAL BURN PERIOD

VI.D.3.a. During the post trial burn periods in accordance with R315-8-15.5(c)(3) and for the minimum period sufficient for the Permittee to analyze samples, compute data, and submit trial burn results, and for the Executive Secretary to review the trial burn results and make any modifications necessary to the permit, the Permittee shall comply with the following conditions:

VI.D.3.a.i. Limitation in Waste Feed

VI.D.3.a.i.a. After successful completion of an agent trial burn, the Permittee may feed permitted hazardous waste to the DFS up to 50% of the chemical agent and combined Propellant, Explosive, and Pyrotechnic (PEP) feed rates demonstrated during the trial burn. The Permittee may process up to 75% of the demonstrated agent and PEP feed rates after approval of preliminary results by the Executive Secretary for the metals train, dioxin train, particulate/acid gas train(s), and VX DAAMS results, including a preliminary DRE calculation. Full feed rates may be incorporated into Module V after the final report has been reviewed and approved by the Executive Secretary.

VI.D.3.a.i.b. Only one type of chemical agent (e.g., GB or VX) shall be burned in the DFS at any given time. The Permittee shall follow the requirements of R315-3-4 prior to simultaneous processing of multiple munition types.

VI.D.3.a.i.c. The Permittee may only treat those ECR maintenance residues listed in Table 2-2a of Attachment 2 (Waste Analysis Plan). The maintenance residue feed rate shall be limited to 50% of the agent feed rate demonstrated during the Trial Burn Period. This residue weight is assumed to be agent. The maximum drop weight shall not exceed 50% of the maximum agent drop weight demonstrated during the trial burn. The Permittee may increase the feed rate and drop weight of maintenance residue to 75% of the agent feed rate and drop weight demonstrated during the trial burn after the Executive Secretary approves the preliminary results specified in Condition VI.D.3.a.i.a. The kiln speed shall not exceed one rpm for a minimum of 15 minutes after the feed of maintenance residues.

The HDC shall be placed in slow speed for a minimum of one hour after the last feed of ECR maintenance residues.

- VI.D.3.a.i.d. The feed rate of chlorine to DFS shall not exceed three pounds per hour during the agent post-trial burn periods.
- VI.D.3.a.i.e. Throughout the post-trial burn periods, the Permittee shall conduct analysis of the waste to be treated in the DFS to verify that the waste feed is within the physical and chemical composition limits specified in Module V and Attachment 2 (Waste Analysis Plan). The procedure shall follow the waste analysis requirements in Attachments 2 (Waste Analysis Plan) and 3 (Sampling, Analytical, and QA/QC Procedures) for agent and other hazardous waste.
- VI.D.3.a.i.f. In accordance with an approved trial burn plan, the Permittee shall demonstrate compliance with the Performance Standards in Condition V.A.2. for the highest rate at which it will feed waste to the DFS.
- VI.D.3.a.ii. Operating Conditions
- VI.D.3.a.ii.a. The Permittee shall not treat any hazardous waste in the DFS during the post-trial burn period unless the DFS system is operating in compliance with Condition VI.D.1.b., excluding the feed rates in Conditions VI.D.1.b.i.b. and VI.D.1.b.i.w.
- VI.D.3.a.iii. Waste Feed Cut-Off Requirements
- VI.D.3.a.iii.a. The Permittee shall comply with the waste feed cut-off instrument settings specified in the approved trial burn plan.
- VI.D.3.a.iii.b. In the event of a malfunction of a DFS automatic waste feed cut-off instrument as specified in the approved trial burn plan, the Permittee shall immediately manually cut off the waste feed to the DFS and correct the malfunction prior to resuming waste feed. The Permittee shall record in the Operating Record any waste feed cut-off system malfunctions, the time of the malfunction, the time of resuming waste feed, the apparent cause of the malfunctions, and specific steps taken to repair the malfunction and avoid similar future malfunctions.
- VI.D.3.a.iii.c. All instrumentation shall be maintained and tested in accordance with Condition V.A.4.
- VI.D.3.a.iv. Monitoring Requirements
- VI.D.3.a.iv.a. The Permittee shall maintain and calibrate the monitoring and recording equipment as specified in Condition VI.A.4.a and V.A.1.h.i.

MODULE VIII
DEMILITARIZATION
MISCELLANEOUS TREATMENT UNITS

VIII.A. APPLICABILITY

VIII.A.1. The requirements of this module pertain to the miscellaneous units described in Attachment 14 (Demilitarization Miscellaneous Treatment Units) and listed below in Conditions VIII.A.1.a through VIII.A.1.f:

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VIII.A.1.a. Two Rocket Shear Machines (RSMs) including the associated rocket drain and shear stations located in the Explosive Containment Rooms (ECRs).

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VIII.A.1.b. Two Projectile/Mortar Disassembly Machines (PMDs) located in the ECRs.

VIII.A.1.c. Three Multipurpose Demilitarization Machines (MDMs) and the associated Pick and Place Machines (PKPLs) located in the Munitions Processing Bay (MPB).

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VIII.A.1.d. Two Bulk Drain Stations (BDSs) located in the MPB.

VIII.A.1.e. One Mine Machine, designated as MHS-MIN-101, located in ECR B.

VIII.A.1.f. One Air Operated Remote Ordnance Access System (Cutter Machine), which can be located in either ECR, or in the MPB.

VIII.A.2. Notwithstanding the requirements specified elsewhere in this Permit, the Permittee may feed uncut bursters from Mustard filled 155-mm projectiles to the DFS provided that only an equipment malfunction or a related troubleshooting effort caused the uncut burster to be placed on the DFS feed gate. The Permittee shall document in the Operating Record the reason(s) that the burster was not sheared. The Permittee shall continue to implement the necessary corrective actions to minimize the occurrences of uncut bursters being fed to the DFS.

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VIII.B. ALLOWABLE WASTE FEED

VIII.B.1. Reserved

Deleted: The Permittee may treat M55 rockets and explosive components (hazardous waste codes P999, D002, D003, D004, D005, D006, D007, D008, D009, D010) from munitions in the RSMs to comply with rates specified in Modules V and VI for the DFS.

VIII.B.2. The Permittee may treat 155-mm projectiles, and 4.2 inch mortars (hazardous waste codes P999, D002, D003, D004, D006 through D010, D028, D034, and D039) in the PMDs and the MDMs/PKPLs to comply with rates specified in Modules V and VI for the DFS and MPF.

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VIII.B.3. The Permittee may treat ton containers, (hazardous waste codes P999, D002, D003, D004, and D006 through D010, D028, D034, and D039) in the BDSs to comply with rates specified in Modules V and VI for the MPF.

Deleted: The Permittee may treat M23 mines and mine components via the Mine Machine to comply with rates specified in Modules V (Long-Term Incineration) and VI (Short-Term Incineration) for the DFS. The Permittee may process Mine Component Containers (MCCs), used to transfer mine components, through the Mine Machine as specified in Attachment 14 (Demilitarization Miscellaneous Treatment Units).

VIII.B.4. Reserved

VIII.B.5. The Permittee is prohibited from treating waste in the miscellaneous units, identified in Condition VIII.A.1, that is not identified in Conditions ~~VIII.B.2, VIII.B.3, and VIII.B.4.~~

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VIII.C. **IGNITABLE AND INCOMPATIBLE WASTES**

VIII.C.1. Ignitable wastes (D001) shall not be treated in the ECRs or MPB.

VIII.C.2. The Permittee shall place only munitions or bulk containers with one type of chemical agent (e.g., GB, ~~VX or Mustard~~) in the MPB at one time. Only one chemical agent may be placed in the ECRs.

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VIII.C.3. The Permittee shall not place chemical agent or munitions containing that chemical agent in a container that previously held a different chemical agent or munitions containing a different chemical agent until the container has been decontaminated to less than 1 VSL.

VIII.D. **DESIGN AND OPERATING REQUIREMENTS**

VIII.D.1. The Permittee shall comply with the design and operating requirements specified in Attachment 14 (Demilitarization Miscellaneous Treatment Units) of the Permit.

VIII.D.1.a. ~~Reserved~~

Deleted: Undrainable agent filled rockets shall be processed in accordance with procedures that have been demonstrated during an approved DFS trial burn.

VIII.D.2. The Permittee shall comply with the requirements specified in the Attachment 9 (Contingency Plan) when there has been a release that escapes engineering controls or a fire, explosion, or detonation from the operation of the RSMs, PMDs, MDMs, Mine Machine, or BDSs.

VIII.D.3. If equipment in the ECRs or downline of the ECRs shuts down, any munitions or munition components being processed in the ECRs may remain in the ECRs until the equipment in question is operational. Alternatively, facility personnel may don appropriate PPE and physically retrieve the munitions or munition components from the ECRs and manually place the item(s) into an appropriate overpack for subsequent storage in the Toxic Maintenance Area (TMA). These activities shall be documented for each day of occurrence in the Operating Record.

VIII.D.4. If the equipment in the MPB or downline of the MPB shuts down, any bulk containers, munitions, or associated components being processed in the MPB may remain in the MPB until the equipment in question is operational. Alternatively, facility personnel may don appropriate PPE and physically retrieve munitions or munition components from the MPB and manually place the item(s) into an appropriate overpack for subsequent storage in the TMA. These activities shall be documented for each day of occurrence in the Operating Record.

VIII.D.5. The Permittee shall maintain sensors and interlocks identified as critical in the tables of Attachment 14 (Demilitarization Miscellaneous Treatment Units) so that they are functional when the associated miscellaneous unit is operating. The Permittee is allowed to complete processing of any partially processed munition when a sensor or interlock identified as critical ceases to function.

VIII.D.6. Munition rejects exiting any of the miscellaneous units identified in Condition VIII.A shall be transferred to the ECV, UPMC, MPB, or the TMA for pre-treatment under an Emergency Permit, returned to storage, or placed back into the miscellaneous unit to complete treatment. These activities shall be documented for each day of occurrence in the Operating Record.

VIII.E. **DETECTION, INSPECTION, AND MONITORING REQUIREMENTS**

VIII.E.1. As described in Attachment 14 (Demilitarization Miscellaneous Treatment Units), the Permittee shall monitor the waste throughput for each miscellaneous unit by use of the Process Data Acquisition and Recording System (PDARS) and the manual records maintained by the control room operators. The Permittee shall use weighing, before and after draining, to quantify the amount of agent removed in the BDSs.

VIII.E.1.a. Reserved

VIII.E.2. The Permittee shall use the bubbler system and load cells associated with the BDS to determine the quantity of liquid agent drained from, a bulk container processed in the BDS. The amount of residual liquid and solid heel remaining in the bulk container shall then be determined by comparing the ton container's initial fill weight with the amount of liquid drained. If the Permittee is unable to determine the quantity of liquid and solid residual heel in the bulk container, the Permittee shall orally notify the Executive Secretary within 24 hours. The Permittee shall record the bubbler reading and load cell reading for each bulk item drained in the Operating Record. If the quantity of agent removed, as determined in Condition VIII.E.1, is not consistent with the bubbler system, then the Permittee shall not feed the bulk container to the MPF.

VIII.E.3. The Permittee shall conduct a physical measurement to ascertain the drain status. The Permittee shall record the results of this evaluation in the Operating Record.

VIII.E.3.a. Reserved

VIII.E.4. If the evaluation conducted in accordance with Condition VIII.E.3. indicates that the drain is insufficient to enable feed of the bulk container to the MPF, then the Permittee shall notify the Executive Secretary as to which one of the following courses of action shall be implemented:

VIII.E.4.a. The Permittee shall perform corrective maintenance on the BDS. The bulk container will then be drained again. The drain status will be re-evaluated according to Condition VIII.E.3.; or

VIII.E.4.b. For Mustard ton containers only, the bulk container shall be processed in accordance with the procedures demonstrated in the approved Mustard trial burn. The maximum feed weight is in Module V.; or

VIII.E.4.c. The Permittee shall comply with the requirements in Condition VIII.E.11.

Deleted: . Except as allowed by Permit Condition VIII.E.1.a., the Permittee shall use the Agent Quantification System (AQS) to quantify the amount of agent removed from the M55 rockets and the M23 mines in the ECRs.

Deleted: Undrainable agent filled rockets shall be processed in accordance with procedures that have been demonstrated during an approved DFS trial burn.

Deleted: if

Deleted: is drained.

Deleted: VXH ton containers will be verified drained below 33 pounds by subtracting the weight of VXH drained from the ton container and the ton container tare weight from the full ton container gross weight.

Deleted: if

Deleted: is drained using the bubbler system and load cells

Deleted: a complete drain as indicated by

Deleted: and shall follow the requirements specified below.

Deleted: Except as allowed in Condition VIII.E.6., for the purpose of compliance with this Condition, if the quantity of agent removed from a bulk container is less than the following quantities, then the quantity removed is not consistent with readings indicating a complete drain:¶

- ¶ MK-116 bomb - 329 pounds; ¶
- ¶ Spray Tank - 1273 pounds;¶
- ¶ Ton Container (GB) - 1410 pounds¶
- ¶ Ton Container (VX) - 1410 pounds

Deleted: Ton Container (Mustard) - 1695 pounds

Deleted: except for VXH ton containers

Deleted: For spray tanks only, the operator shall visually or physically inspect the position of the hole drilled in the nose cone of each spray tank. All inspections related to this Condition shall be documented in the Operating Record. If the hole is determined to be in the agent cavity, the tray shall be re-positioned and another hole shall be drilled in the ballast or spacer section of the nose cone. The operator shall repeat the inspection as stated in this Condition.

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Deleted: VX

- VIII.E.5. If the evaluation conducted in accordance with Condition VIII.E.3. indicates that the drain is sufficient, then the bulk container may be considered adequately drained and fed to the MPF. This determination shall be documented in the Operating Record.
- VIII.E.6. If the fill weight for a given ton container, as listed in the Deseret Chemical Depot (DCD) inventory, is less than the standard fill weights (1800 lbs ~~Mustard~~), then the Permittee may opt to apply the following criteria when evaluating consistency between the quantity removed and the bubbler reading.
- VIII.E.6.a. If the quantity of agent removed from a ton container is less than the minimum required to enable feed to the MPF, indicating that the residual liquid and solid heel is greater than the maximum allowed, the Permittee shall comply with Condition VIII.E.3. and Condition VIII.E.4. or VIII.E.5.
- VIII.E.6.b. If the quantity of agent removed from the ton container is greater than or equal to the minimum required to enable feed to the MPF indicating that the residual liquid and solid heel is less than the maximum allowed, then the ton container may be considered adequately drained and fed to the MPF.
- VIII.E.7. The Permittee shall use the bubbler system and the AQS associated with the MDM to determine if projectiles or mortars processed in the MDM are drained. If the Permittee is unable to determine if the projectile or mortar is drained using the bubbler system and the AQS, the Permittee shall orally notify the Executive Secretary within 24 hours. An AQS adequate drain determination consists of an indication of flow into the AQS. The Permittee shall record the bubbler readings and the AQS reading for each projectile or mortar drained in the Operating Record. If the quantity of agent removed is not consistent with all complete drain indications for the munitions on that tray, then the Permittee shall not feed the tray of projectiles or mortars to the MPF and shall follow the requirements specified below:
- VIII.E.7.a. The Permittee shall conduct a visual inspection and physical measurement to ascertain the drain status. The Permittee shall record the results of this evaluation in the Operating Record.
- VIII.E.8. If the visual inspection and physical measurement evaluation conducted in accordance with Condition VIII.E.7.a. indicates that the drain is insufficient, then the Permittee shall orally notify the Executive Secretary as to which one of the following courses of action shall be implemented:
- VIII.E.8.a. The Permittee shall perform corrective maintenance on the MDM. The munition will then be drained again. The drain status will be re-evaluated according to Condition VIII.E.7.a.; or
- VIII.E.8.b. The Permittee shall comply with Condition VIII.E.11.
- VIII.E.9. If the visual inspection and physical measurement evaluation conducted in accordance with Condition VIII.E.7.a. indicates that the drain is sufficient, then the munition may be considered adequately drained and fed to the MPF.

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Deleted: 1500 lbs VX, 1500 lbs GB)

Deleted: 95% of the DCD inventory weight, then the quantity removed is not consistent with a bubbler reading indicating a complete drain and

Deleted: 95% of the DCD inventory weight

- VIII.E.10. The method used to determine if a bulk container, projectile, or mortar is adequately drained shall be recorded in the Operating Record for each of these items processed.
- VIII.E.11. Within 24 hours of discovery of any bulk container, projectile, or mortar which cannot be processed under Conditions VIII.E.2 through 6 and VIII.E.7 through 10, the Permittee shall notify the Executive Secretary and (1) properly manage the munition or bulk container in the Munitions Demilitarization Building; (2) request and receive approval for further processing; or both. A sample of the undrained liquid, or solid, or both shall be taken and analyzed for agent purity and metals content, unless a treatment method for the bulk container or munition type has been approved by the Executive Secretary in accordance with the procedures in R315-3-4.
- VIII.E.12. The Permittee shall follow the inspection requirements for the equipment/processing lines associated with the miscellaneous units as specified in Attachment 5 (Inspection Plan).
- VIII.E.13. The Permittee shall initiate repair of all chips and cracks in the epoxy coatings on the floors of the ECRs and MPB within 72 hours of detection.
- VIII.E.14. The Permittee shall not conduct any DPE or related entries into areas which are contaminated with agent above the 140 IDLH Mustard and 500 IDLH GB and VX.
- VIII.E.15. Reserved.
- VIII.E.16. The Permittee may use the Air Operated Remote Ordnance Access System (Cutter Machine) to cut into cylindrical items that have been rejected or require special handling. It may be used for nose closure removal, fuze removal, and access to interior components. The Cutter Machine will be used in accordance with site approved operating procedures.
- VIII.F. STORAGE REQUIREMENTS**
- VIII.F.1. The Permittee may store waste in the form of maintenance residues on the equipment in the ECRs or on the floor of the ECRs provided that Conditions VIII.F.2. and VIII.F.3. are satisfied.
- VIII.F.2. Waste in the ECR sumps shall be removed within 24 hours as required by Module IV.
- VIII.F.3. The explosive limits of each ECR, as specified in Attachment 14 (Demilitarization Miscellaneous Treatment Units), shall not be exceeded.
- VIII.G. CLOSURE**
- VIII.G.1. At closure, the Permittee shall follow the procedures specified in Attachment 10 (Closure Plan).

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Deleted: The Permittee may repeat treatment, in whole or in part, via the Mine Machine if a mine cannot be verified as drained per Condition VIII.E.1. Prior to any other processing of a mine that cannot be verified as drained under Condition VIII.E.1., and within 24 hours, the Permittee shall notify the Executive Secretary. If treatment not specified in this Permit is required for further processing, the Permittee shall notify the Executive Secretary and request and receive approval for further processing

MODULE X
AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS, TANKS, CONTAINERS,
AND THE HVAC

X.A. APPLICABILITY - EQUIPMENT LEAKS

- X.A.1. The Permittee shall follow the procedures and requirements specified by R315-8-18 [40 CFR 264.1050 through 264.1065].
- X.A.2. The Permittee shall, as required by R315-8-2.4, determine for each piece of equipment specified by R315-8-18 whether this equipment contains or contacts a hazardous waste or hazardous wastes residue that equals or exceeds 10 percent by weight organic concentration using the analytical test methods and procedures in Attachment 2 (Waste Analysis Plan). The Permittee shall maintain records of these determinations as required by R315-8-18 [40 CFR 264.1064].
- X.A.3. R315-8-18 applies to the equipment identified in Table 17-1 of Attachment 17 (Equipment Lists) that is associated with the management of agent in the Agent Collection System (ACS) tank system. The ACS tank system boundary begins at the suction wands at the drain locations (Bulk Drain Stations (BDSs) and Multipurpose Demilitarization Machines (MDMs) located in the Munitions Processing Bay (MPB) and Rocket Shear Machines (RSMs) located in the Explosive Containment Rooms (ECRs)), and includes equipment in the Upstairs Munitions Corridor (UPMC) and the Toxic Cubicle (TOX), and ends at the Liquid Incinerator (LIC) primary chambers.
- X.A.4. The Permittee shall mark each piece of equipment covered by the requirements set forth by R315-8-18 [40 CFR 264.1050(d)] in such a manner that the equipment can be distinguished readily from other pieces of equipment.

X.B. CHANGE IN PROCESS

- X.B.1. Except as described in Condition X.B.3, the Permittee shall perform a waste determination as specified by Condition X.A.2 if there is a change in process that could increase the total organic content of waste contacted by the equipment or the addition of new waste management units.
- X.B.2. The Permittee shall modify Table 17-2 in Attachment 17 (Equipment Lists), via a permit modification, to reflect the addition of equipment regulated under R315-8-18 if a waste determination as described in Conditions X.A.2. and X.B.1. indicates that R315-8-18 [40 CFR 264.1052 through 264.1060] applies to the equipment, other than that described in X.A.
- X.B.3. Equipment identified in Condition X.C. and Attachment 17 (Equipment Lists) may be excluded from the requirements of R315-8-18 [40 CFR 264.1052 through 264.1060], and Condition X.C. and X.D. if the Permittee demonstrates that the equipment contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period less than 300 hours per calendar year.

X.C. STANDARDS - EQUIPMENT

- X.C.1. The Permittee shall comply with the following requirements:
- X.C.1.a. R315-8-18 [40 CFR 264.1054] for operation of pressure relief devices in gas/vapor service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.b. R315-8-18 [40 CFR 264.1058] for operation of pressure relief devices in heavy liquid service and light liquid service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.c. R315-8-18 [40 CFR 264.1058] for operation of connectors and flanges;
 - X.C.1.d. R315-8-18 [40 CFR 264.1058] for operation of pumps in heavy liquid service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.e. R315-8-18 [40 CFR 264.1057] for operation of valves in gas/vapor service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.f. R315-8-18 [40 CFR 264.1055] for operation of sampling equipment connections systems outlined in Tables 17-1 and 17-2 in Attachment 17 (Equipment Lists);
 - X.C.1.g. R315-8-18 [40 CFR 264.1056] for operation of open ended valve or lines identified in Table 17-1 and Table 17-2 of Attachment 17 (Equipment Lists); and
 - X.C.1.h. R315-8-18 [40 CFR 264.1053] for operation of applicable compressors.
- X.C.2. The Permittee shall perform leak detection monitoring required by Conditions X.C., and X.D., in such a manner to meet the minimum leak detection procedures, requirements, and performance standards specified in Section 22.38 of Attachment 22 (Agent Monitoring Plan).

X.D. LEAKING EQUIPMENT

- X.D.1. The identification and repair of leaking equipment shall comply with Condition X.C. and the additional requirements listed in Conditions X.D.1.a through X.D.1.c.
- X.D.1.a. As soon as conditions allow an entry, equipment shall be tagged with an identification number and the date the leak was detected. The tag shall be readily visible as outlined in R315-8-18 [40 CFR 264.1064].
 - X.D.1.b. The identification tag required by X.D.1.a. may be removed after the leak has been repaired.
 - X.D.1.c. Information associated with the leaking equipment shall be recorded and kept in the Operating Record for a minimum of three years. The record shall include the following information:
 - X.D.1.c.i. The equipment identification number.
 - X.D.1.c.ii. The date the leak was detected and the dates of each attempt to repair the leak.

- X.D.1.c.iii. Repair methods applied to each attempt to repair the leak.
- X.D.1.c.iv. "Repair Delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
- X.D.1.c.v. Documentation supporting the delay of repair of a valve in compliance with 40 CFR 264.1059(c).
- X.D.1.c.vi. The signature of the Plant Shift Manager (or designee) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.
- X.D.1.c.vii. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
- X.D.1.c.viii. The date of successful repair of the leak.

X.E. Reserved.

X.F. RECORDKEEPING AND REPORTING

- X.F.1. The Permittee shall maintain a log for all equipment listed in Conditions X.A. and X.B. The log shall contain the following information:
 - X.F.1.a. Equipment identification number and waste management unit identification;
 - X.F.1.b. Approximate location of the equipment within the facility;
 - X.F.1.c. Type of equipment;
 - X.F.1.d. Percent of total organics by weight of the hazardous waste stream at the equipment;
 - X.F.1.e. Physical state (e.g., gas, vapor or liquid) of hazardous waste at the equipment; and
 - X.F.1.f. Method used to achieve compliance with R315-8-18.
- X.F.2. The Permittee shall record, in the Operating Record, a list of exempted equipment and supporting waste analysis as required by R315-8-18 [40 CFR 264.1064(k)].
- X.F.3. The Permittee shall record, in the Operating Record, the inspection of equipment, detection of leaks, and repair of equipment.
- X.F.4. The Permittee shall submit a semi-annual report each August 1 and February 1 to the Executive Secretary in accordance with R315-8-18 [40 CFR 264.1065]. The semi-annual reporting period shall be defined as from January 1 to June 30 or from July 1 to December 31.
- X.F.5. A report to the Executive Secretary, in accordance with Condition X.F.4., is not required for the leaks that are detected and repaired as required by Conditions X.C. and X.D.

X.G. APPLICABILITY - TANKS AND CONTAINERS

- X.G.1. The Permittee shall comply with the requirements of R315-8-22, air emission standards for storage of hazardous waste in tanks and containers at the facility.
- X.G.2. The Permittee is exempt from the requirements of R315-8-22 [40 CFR 264.1084 through 1087] provided the Permittee demonstrates compliance with X.G.2.a. and X.G.2.b. or demonstrates compliance with X.G.2.c.
- X.G.2.a. All hazardous wastes entering a container, tank, or primary containment sump have an average volatile organic concentration (VOC) at the point of waste origination of less than 500 parts-per-million by weight as determined by Condition X.G.3.;
- X.G.2.b. All waste determinations specified by Condition X.G.1., have been updated at least once every 12 months following the date of the initial determination for hazardous waste streams entering container and tank units to be exempted;
- X.G.2.c. The VOC of the hazardous waste has been treated by an organic destruction or removal process that satisfies any one of the requirements and conditions of R315-8-22 [40 CFR 264.1082(c)(2)], provided the VOC of the treated wastes have been determined by Condition X.G.3. for treated wastes which are not controlled and monitored as required by R315-8-22 [40 CFR 264.1084 through 1087].
- X.G.3. If the Permittee exempts the waste pursuant to Condition X.G.2., the Permittee shall determine the VOC as follows:
- X.G.3.a. Initial or change of process waste determinations, at the point of waste origination, for average VOC(s) of hazardous waste streams and treated waste streams identified in Attachment 2 (Waste Analysis Plan) shall be performed in accordance with Attachment 2 (Waste Analysis Plan), R315-8-22 [40 CFR 264.1083, which references 40 CFR 265.1084(a)(3)], and subject to the procedures and requirements of Attachment 3 (Sampling, Analytical, and QA/QC Procedures).
- X.G.3.b. The Permittee shall update all waste determinations as necessary at least once every 12 months following the date of the initial determination for hazardous waste streams.
- X.G.4. Except as allowed by X.G.5., the Permittee shall follow Attachment 2 (Waste Analysis Plan) to determine the maximum organic vapor pressure (MOVP) for hazardous wastes in tanks using level one control specified by R315-8-22 [40 CFR 264.1084] through direct measurement to include a sufficient number of samples to be representative of the waste contained in the tank in accordance with Attachment 2 (Waste Analysis Plan). Within 30 days after sample collection, the MOVP data and results shall be submitted to the Executive Secretary to meet the requirements of R315-8-22 [40 CFR 264.1084] for MOVP analysis. Samples shall be taken in accordance with Attachment 2 (Waste Analysis Plan).
- X.G.5. The Permittee may choose to use generator knowledge to determine the MOVP for hazardous waste in tanks as outlined by R315-8-22 [40 CFR 264.1083(c)].
- X.G.6. The Permittee shall update all vapor pressure tests as necessary, at least once every 12 months, following date of initial determination for hazardous waste entering tank units.

- X.G.7. The Executive Secretary may request a waste characterization to determine compliance with R315-8-22.
- X.G.8. The Permittee is prohibited from treating hazardous waste subject to the requirements for containers, tanks, and primary containment sumps unless air emission control is maintained in accordance with R315-8-22 [40 CFR 264.1084 through 1087].
- X.G.9. Reserved.
- X.G.10. The Permittee shall control air emissions from hazardous waste in containers for the container management units identified in Table 2 as specified by R315-8-22 [40 CFR 264.1086] and as follows:
- X.G.10.a. For containers with a design capacity greater than 26 gallons and less than 121 gallons, air emissions shall be controlled by level one control as specified by R315-8-22 [40 CFR 264.1086(c)].
- X.G.10.b. For containers with a design capacity greater than 121 gallons, which are in light material service as defined by R315-7-30 [40CFR 265.1081], air emissions shall be controlled by level two control as specified by R315-8-22 [40 CFR 264.1086(d)].
- X.G.10.c. For containers with a design capacity greater than 121 gallons, which are not in light material service as defined by R315-7-30 [40CFR 265.1081], air emissions shall be controlled by level one control as specified by R315-8-22 [40 CFR 264.1086(c)].
- X.G.11. Containers used for storage must be composed of suitable materials to minimize the exposure of VOCs to the atmosphere and the organic permeability of vapors. The container must form a vapor-tight seal.
- X.G.12. The Permittee shall control air emissions from hazardous waste tanks used as primary containment devices in accordance with R315-8-22 [40 CFR 264.1084] for the tanks identified in Table 2.
- X.G.13. The requirements of R315-8-22 and this Module do not apply to the following management units regardless of the waste determination:
- X.G.13.a. Containers that have a design capacity less than or equal to 0.1m³;
- X.G.13.b. Satellite containers;
- X.G.13.c. Process bulk feed tanks.

X.H. INSPECTION AND MONITORING

- X.H.1. The Permittee shall follow the inspection plan and schedule in Attachment 5 (Inspection Plan).
- X.H.2. The Permittee shall monitor air emission controls as specified in Attachment 22 (Agent Monitoring Plan).

- X.H.3. If any container greater than 0.1m³ in capacity (e.g., 55 gallon drum, ton container, spray tanks, MK-116 bombs) is stored for a period of one year or longer, the Permittee shall visually inspect the container and its cover and closure devices initially and thereafter at least once every 12 months. The container shall be inspected for visible cracks, holes, gaps, or other open spaces into the interior of the container. For storage in the Container Handling Building (CHB) and Unpack Area (UPA), monitoring of the interior of the overpack can be used instead of this visual inspection.
- X.H.4. Except for ton containers, spray tanks or MK-116 bombs, the Permittee shall make a first attempt at repair of any defect detected during the inspection described in Condition X.H.3. no later than 24 hours after detection. Repair shall be completed as soon as possible but no later than five calendar days after detection. If repair of the defect cannot be completed within five calendar days, the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired. Any ton container, spray tank, or MK-116 bomb with a defect shall be managed as described in Attachment 5 (Inspection Plan) and Attachment 12 (Containers).
- X.H.5. The Permittee shall inspect containers and maintain a record of the inspections and a copy of the procedure used to determine that containers with a capacity of 0.46m³ or greater, which do not meet applicable DOT regulations as specified by R315-8-22 [40 CFR 264.1086(f)], are not managing hazardous waste in light material service.
- X.I. RECORDKEEPING AND REPORTING**
- X.I.1. The Permittee shall maintain records for each container or tank exempted from the standards of Condition X.G.
- X.I.2. As required by R315-8-22 [40 CFR 265.1084(b)(2)] and Attachment 2 (Waste Analysis Plan), the Permittee shall record the information from each exempted hazardous waste determination as identified in Condition X.G. (e.g., test results, measurements, calculations and other documentation) including the date, time, and location for each hazardous waste sample collected.
- X.I.3. If exempted under Condition X.G., the Permittee shall record the identification number of the hazardous waste management unit in which the waste is treated.
- X.I.4. The Permittee shall orally report to the Executive Secretary, within 24 hours, each occurrence when hazardous waste is placed in a waste management unit identified in Table 2 or Table 4 in noncompliance with the conditions specified in Condition X.G.
- X.I.5. The Permittee shall submit a written report within 15 calendar days of the time the Permittee becomes aware of the occurrence specified in Condition X.I.4. The written report shall contain the EPA identification number, the facility name and address, a description of the noncompliance event and the cause, actions taken to correct the noncompliance and prevent recurrence of the noncompliance and the report shall be signed and dated by a authorized representative of the Permittee.

- X.I.6 The Permittee shall maintain the following information for all container management units identified in Table 2 that are subject to the air emission requirements of R315-8-22 [40 CFR 264.1086]: type of container; type of air emission control; and records of Inspections/Monitoring Information with the required information specified below:
- X.I.6.a. For all container management units identified in Table 2 that are used to store containers having a design capacity greater than 121 gallons, the Permittee shall maintain the information used to determine the status of the material as either light or heavy in accordance with R315-7-30 [40 CFR 265.1081].
- X.I.6.b. For all container management units identified in Table 2 that are used to store containers for which the less than 500 ppmv exemption is used, as specified in R315-8-22 [40 CFR 264.1082(c)], the Permittee shall maintain the exemption/waste determination information in Condition X.I.6.
- X.I.7. The Permittee shall maintain the following information in the Operating Record for all tanks subject to the air emission requirements of R315-8-22 [40 CFR 264.1084], identified in Table 2:
- X.I.7.a. An identification number or other unique identification description of the tanks;
- X.I.7.b. Date of inspection; type, description, and location of defect; date of detection; and corrective action taken to repair the defect; and
- X.I.7.c. Maximum organic vapor pressure of the hazardous waste in the tank, determined in accordance with Condition X.G. Where applicable, the determination shall include the date and time samples were taken, the analytical method used, and the analytical results.

X.J. HVAC GENERAL OPERATING CONDITIONS

- X.J.1. All HVAC filter units and filter unit vestibules shall be maintained at a negative pressure. These pressures will be recorded every four hours in the Operating Record. These pressures will also be recorded each time the unit's operating status is changed. If any of these readings are found to be positive, agent-processing operations within the facility shall cease immediately. A description of the filter system is located in Attachment 5 (Inspection Plan), Paragraph 5.9.
- X.J.2. Seven HVAC filter units shall be operational at all times when any hazardous waste is being managed. During power upsets, the facility shall follow contingency procedures Attachment 9 (Contingency Plan) Paragraph 9.4.13.5.1 for maintaining negative pressure.
- X.J.3. The Permittee shall comply with Attachment 5 (Inspection Plan) for the inspection of the HVAC filter units. For the purpose of compliance with these conditions, each filter unit is defined as beginning at the inlet flange of the filter unit inlet isolation damper and ending at the outlet flange of the filter unit outlet damper.

X.K. REPLACEMENT OF CARBON FILTER BANKS

- X.K.1. The Permittee shall notify the Executive Secretary within seven days after a confirmed breakthrough of chemical agent at 3 Vapor Screening Level (VSL) for GB, VX, and for HD in carbon bank number two of any one of the nine carbon filter units. Within 30 days from the time of the confirmed breakthrough, the Permittee shall begin operations to replace carbon banks one and two in that unit. If any confirmed agent breakthrough is detected in any other carbon filter midbed (other than midbed #1 or 2), the Executive Secretary shall be notified within 24 hours. The Permittee shall begin operations to replace the carbon banks associated with the confirmed readings within 30 days of the confirmed breakthrough.
- X.K.2. The Permittee shall perform the analyses for spent carbon removed from a filter bank in accordance with the Attachment 2 (Waste Analysis Plan). This data shall be maintained in the Operating Record.
- X.K.3. The Permittee shall, at a minimum of every 18 months, perform leak test challenges on MDB HVAC carbon filters. CAL carbon filters shall be leak test challenged at a minimum of every 12 months. If one or more trays in a bank are replaced, or if maintenance to a bank is performed that could affect the filter's integrity or leak-tightness additional leak tests shall be performed on the affected banks before that filter is placed on line.
- X.K.4. At the MDB HVAC carbon filter units, periodic (18-month) leak test challenges are not required for carbon banks one and two, and for any carbon bank three that has been exposed to confirmed agent breakthrough of carbon bank two. At the CAL HVAC exhaust filter units, periodic leak test challenges are not required for carbon bank one and for any carbon bank two that has been exposed to confirmed agent breakthrough of carbon bank one. The challenge data shall be submitted within fifteen days of completion of each challenge to the Executive Secretary.
- X.L. **MONITORING REQUIREMENTS**
- X.L.1. The Permittee shall stop the feed of munitions to the demilitarization equipment identified in Attachment 14 (Demilitarization Equipment) when an ACAMS alarm occurs for two consecutive cycles in the HVAC filter stack. If the ACAMS alarm is confirmed, the Permittee shall stop furnace operations once all drained agent and partially disassembled munitions have been thermally treated, until a determination has been made as to the cause of the alarm and actions have been taken to prevent the re-occurrence of the alarm. The Executive Secretary shall be notified within 24 hours pursuant to Condition I.U. of a release from the HVAC filter stack.
- X.L.2. A Depot Area Air Monitoring System (DAAMS) tube sampling the HVAC stack shall be pulled at least every twelve hours and analyzed. A corresponding Quality Plant (QP) sample shall be pulled at least daily and analyzed. The QP sample shall correspond to one of the twelve-hour samples.
- X.L.3. The DAAMS tubes in 4th midbed shall be analyzed immediately if the HVAC stack ACAMS alarms. The DAAMS tubes shall be pulled and analyzed in accordance with Attachment 3 (Sampling, Analytical, and QA/QC Procedures).

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X.L.4. The HVAC filter unit vestibules shall be monitored in accordance with Attachment 22 (Agent Monitoring Plan) for the presence of chemical agent when the associated filter unit is placed in a standby condition. Feed to the demilitarization equipment described in Attachment 14 (Demilitarization Equipment) shall cease immediately upon a confirmed agent alarm from a HVAC vestibule.

X.L.5. When the HVAC stack ACAMS is off line for more than 10 minutes, the DAAMS tube sampling the HVAC stack shall be pulled and analyzed as soon as the ACAMS is back on line.

X.L.6. HVAC DAAMS tubes are located in the midbeds as specified in Attachment 22 (Agent Monitoring Plan), for GB, VX, and Mustard agent.

X.M. FILTERS EXPOSED TO MORE THAN ONE AGENT

X.M.1. Before carbon filters exposed to more than one type of chemical agent may be fed to the DFS, the Permittee shall: (1) ensure the monitors for all agents to which the carbon potentially is exposed are in place in the DFS furnace duct, common stack and processing areas; (2) submit a multi-agent monitoring plan to the Executive Secretary for approval; (3) submit a sampling and analytical plan to the Executive Secretary for approval in order to ensure that a determination can be made for further management of carbon in accordance with R315-3-4.3.

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